VEGETABLE GROWING IN THE HOME GARDEN

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By R. STUART MURRAY
and V. G. BENNETT

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Introduction

The authors of this treatise hold the opinion that, with the present critical state of affairs in this country, every encouragement should be given home gardeners to grow their own vegetables. In such an endeavour helpful assistance is often necessary, and this book has been compiled and printed with the object of providing that assistance.

Many pitfalls confront the amateur when starting to grow his own vegetables, and, as there is a dearth of suitable reference books, the authors have endeavoured to impart, in simple language and form, the knowledge they themselves have gained during many years of growing and also exhibiting vegetables.

The sincere thanks of the authors is extended to Mr. J. L. Provan, Mr. P. Trevaskis and the Staff of the Burnley School of Horticulture for their help and guidance whilst compiling this book.

With the co-operation of the publishers we place before you, at a popular price, "Vegetable Growing in the Home Garden."

Foreword to First Edition.

During recent years the suburban gardener has become more interested in growing his own vegetables, but frequently he requires a handy book of reference to assist him. In offering this booklet to the public the authors, who are good practical gardeners, have tried to fulfil this need. The beginner will find the instructions simple and easy to follow, while the more experienced grower will be interested in the unusual kinds of vegetables which are often worthy of trial. The planting distance table and the detailed cultural hints will be appreciated by all.

J. L. PROVAN,

Principal, Primary School of Agriculture.

Burnley, 1942.

Foreword to Fifth Edition.

When this handy reference book for the home vegetable-grower was first issued, vegetables were scarce, and the public had been warned that they would become even more difficult to obtain from the previous sources of supply. The public's response to the appeal to grow more vegetables was immediate, and many home gardeners were able to supply themselves and have a small surplus to dispose of from time to time. They have now realised that they have saved money and enjoyed the exercise associated with vegetable growing. The necessity to continue these efforts is still with us, and, during the coming spring, all must endeavour to cultivate, at least, another bed or two.

The publication of the Fifth Edition of this very useful aid to the practical problems of vegetable growing, within one year of its original issue, proves that it has been appreciated, and the authors are to be complimented on its success. I feel sure that more and more home gardeners will find it a reliable guide for their future activities in the vegetable garden.

J. L. PROVAN, B.Agr.Sc.,

Principal, School of Horticulture, Burnley.

May 11, 1943.

ESTABLISHED 1849 (UNDER ROYAL CHARTER)

FOUNDED BY JOHN PASCOE FAWKNER

The Royal Horticultural Society of Victoria

At the present time, when the necessity for growing vegetables is well to the forefront of the public, a little booklet such as this has a definite value to the suburban grower.

The editors of these articles, who are members of the Royal Horticultural Society of Victoria, must be commended for the very able and capable manner they have compiled a very necessary and useful book, which will fill a long-felt want.

We hope that it will have the success it deserves.

W. A. COMEADOW,

Hon. Sec. Royal Horticultural Society of Victoria.

SALUS ET HORTI AFFINES

ESTABLISHED 1913

Canterbury and District Horticultural Society

In commending this little book on vegetable growing, particularly to the busy home gardener, whose work probably does not permit the perusal and study of long detailed works on the subject, one does so for these reasons—

Firstly, the times demand that we grow as many vegetables as possible for home use, and a book of reference is essential.

Secondly, the information is concise, practical, definite and easily followed.

Thirdly, the home gardener, be it husband or wife, boy or girl, following the instructions given here, will gain an interest in, and a love for, nature that are both tonic and recreation for body and mind, and will ultimately relish the freshness and delicacy of well-grown home products.

C. J. Dennis, in his poem "Wheat" has expressed thoughts that are truly applicable to the vegetable grower when he says—

"It's a game that's hard to beat—
Sowin' it an' growin' it—it's what the nations eat.
Tho' it ain't a life of pleasure,
And there's little time for leisure,
It's contentin', in a measure, is the game of growin' wheat."

R. VICK,

17/7/42. *Pres. Canterbury & District Horticultural Society.*

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War-Time Fertiliser Hints

Since the first publication of this book artificial manures and sprays have become increasingly scarce. Home gardeners should realise, however, that it is a case of "penny wise and pound foolish" to try and grow vegetables or any other plants without feeding them.

The Government, realising the vital necessity of householders growing their own vegetables, has made available, in small quantities, the essential artificial fertilisers—Superphosphate, Sulphate of Ammonia and Blood and Bone. Several firms have further assisted by blending and marketing a complete market garden manure.

Potash is harder to obtain, and all wood ashes, which contain a percentage of potash, should be sprinkled thickly on the garden and hoed in.

During the past season the cabbage butterfly has been particularly prevalent, and, with Derris Dust practically unobtainable, many gardeners have had trouble in coping with the pest. The authors have found Ramtree Dust No. 2, used once a week, particularly effective in keeping this pest in check.

Layout of the Vegetable Garden

With most amateurs the vegetable plot has invariably been the "Cinderella" of the garden, usually placed in some out-of-the-way corner, where it will not intrude on the beauty of the floral display.

During present conditions, with the scarcity of supplies and the inherent desire to assist in the war effort, more householders are reversing the order and giving the humble vegetable preference.

Choosing the site is very important, and can make or mar the effort. The ideal position is one on a slight slope, northerly if possible, fully exposed to the sun, particularly in winter time, and sheltered from the hot north winds in summer.

Much annoyance will be avoided if the plot is securely protected against livestock of all kinds. They must be kept away when seed has been sown, or disappointment will result.

The soil is another important factor. A light soil will require more humus and liberal manuring, but warms up quicker and produces earlier vegetables. A heavy soil, however, will grow superior vegetables in summer, and requires less watering.

The beds, if possible, should run north and south to obtain the maximum benefit from the sun.

If the garden is of necessity on a steep slope, the beds must be made to run across the slope. If they run up and down hill they will not retain the moisture in summer.

Beds should be from three to five feet wide for convenience and ease of cultivation. They can be of any length, but care should be taken to keep all plants well away from the roots of trees.

In heavy soils the beds should be well built up, at least six inches above the paths. The edges may be kept neat with boards or with narrow strips of herbs, etc.

Concrete paths should be avoided, as they interfere with natural drainage, unless provision is made beneath the path for same.

The size of the vegetable plot is governed mainly by the amount of time available to be expended upon it. It is better to commence with a small area, and gradually increase the size as required. A large amount of produce can be obtained from small areas if they are systematically cropped and well cultivated.

Drainage

Drainage is perhaps the most essential factor in good gardening, and yet is usually the last thing to be considered.

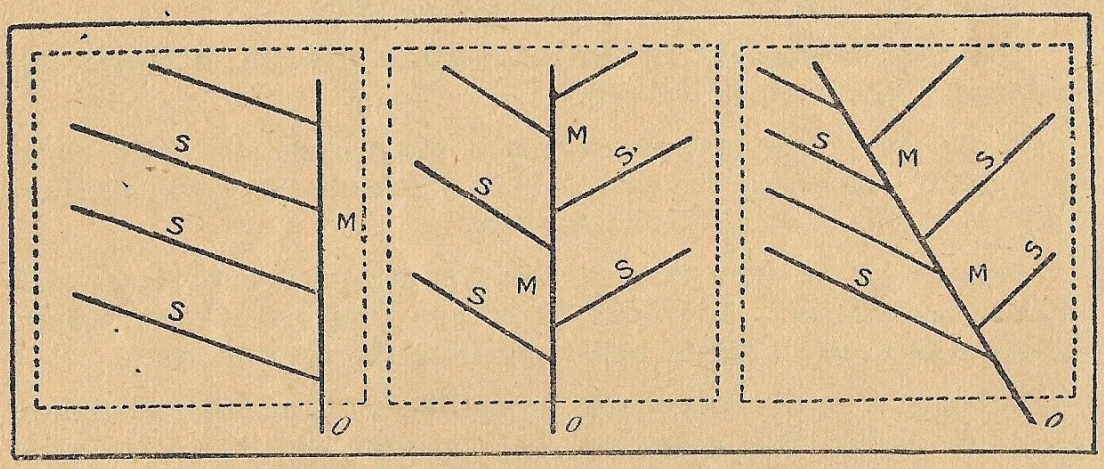
Unless the ground is very sandy or stony, and naturally well drained, it is advisable to use artificial methods. Most soils are improved with good drainage, while it is essential in cold or wet soils or clay ground where the water does not get away quickly from the subsoil.

Drainage serves not only to remove deleterious stagnant water, but promotes aeration and hastens chemical changes in the soil, making nitrogen and mineral plant foods available.

Drainage is of two kinds—surface and sub-drainage.

Surface drainage is usually a cheap temporary way of alleviating undesirable conditions. It does not always eradicate them, and is not recommended, unless used in conjunction with sub-drains.

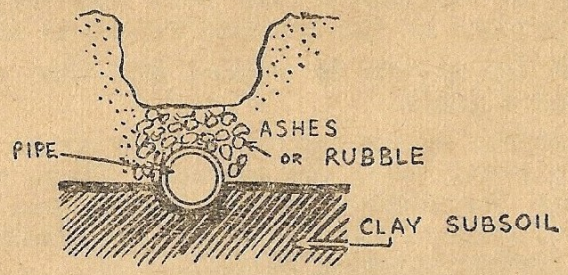
Sub-drains should be placed down on the clay bottom, which will vary according to the locality. Remember, it is not the excessive water lying on the clay bottom that causes the plants to become sickly, but the foul gases which keep rising to the surface of the soil when this water is unable to penetrate through and becomes stagnant. Ten to fifteen feet apart is usually sufficient for even the worst places in the average suburban garden.



Three Suggestions for Draining the Home Garden.
S indicates side drains; M main drains; and O outlet. The outlet will be at the lowest point.

Experience has shown that agricultural drain pipes (not glazed where procurable) are the best method. Two-inch or three-inch pipes are sufficient, with four-inch for the main drain if a large area is under consideration.

The pipes are laid closely, end to end in the trench, and ashes or other porous material placed over them, and the earth filled in and rammed. It is found that water finds ample means of ingress through the soil and crevices between the pipes.



The Bottom of the Pipes should be Slightly Embedded in the Clay Subsoil and Covered with Ashes or Rubble.

Where pipes are not procurable, rubble drains may be made by filling in the bottom of the trenches with six or eight inches of rough stones and covering these with flat ones.

Box drains made of inch or thicker jarrah are also very efficient, but usually have to be renewed every few years. They are made by placing two pieces of 4 x 1 on edge along the trench, about four inches apart and laying a piece of 6 x 1 across the top, forming a box, with the clay as the bottom.

In laying drains the main objective is to tap the wettest spots, and lead them to the lowest point by the shortest route. Circuitous drains are a mistake. Each drain should be laid on one grade all through.

If it is impossible to drain to a street gutter or drainage easement, a hole or sump should be dug at the end of the drain and the water siphoned or baled out.

Preparation of the Soil

With the choosing of the site and the drainage completed, the next item is the preparation of the soil to receive the crop.

It is a good policy to hasten slowly and start by trenching the ground. All the vegetable garden should be trenched at least once every two years, followed by deep digging between crops.

If the beds are trenched in rotation, after cropping, the job does not become too hard.

Trenching is essential to deep-rooted crops such as parsnips and carrots, and beneficial to all others.

Trenching is really an elaboration of deep digging. The principle is to thoroughly turn over and loosen up the topsoil and leave the subsoil (down under where it belongs) in a loosened and aerated condition.

To commence, mark a strip at least two or three spades wide and the full length of the area to be treated, dig out and remove all topsoil, to a depth of at least one foot, to the side of where it is intended to finish trenching the plot.

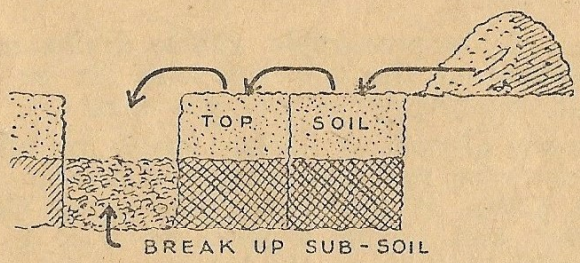
When completed, mark out another strip alongside, the same width as the first. Turn the topsoil from this into the first trench on to the top of the loosened subsoil.

Repeat this to the end of the plot, and then use the topsoil first removed to place on the loosened subsoil in the last trench.

See that all the ground is worked and that no ridges or bars of unbroken land are left.

Before trenching, spread manure or any grass, weeds, etc., it is desired to bury evenly over the surface. These are then buried a spade deep with the turning of the topsoil, and when the bed is again dug spade deep at the end of the crop, this is turned to the surface and a further covering buried.

The texture of heavy clay soils is improved by this treatment, the organic matter preventing the soil from setting hard again, thus admitting air and moisture. No permanent benefit will result from breaking up the subsoil unless animal manure, leaf mould or



Showing Method of Trenching.
Keep the clayish under-layer of soil,
or subsoil, underneath.

other humus is added to improve its texture. Sandy soils also benefit by this treatment, because the organic matter greatly increases their water holding capacity.

It is advisable to leave the ground when dug in a rough or cloddy state for a week or fortnight before breaking the surface down finely in preparation for planting.

While in the rough state dress the whole with good agricultural lime; about 4 oz. to the square yard is ample for most soils.

Manures and Manuring

The correct use of manures and fertilisers is of paramount importance in the successful raising of all kinds of vegetables, because the vegetable plants must be correctly fed in order to assure the finest quality and the greatest amount of life-giving vitamins. They thus receive no check in their progress, but the greatest amount of food value is assured to their leaves and roots.

Vegetables are living organisms which gain their subsistence from the soil, the air and from water; whilst warmth and light are also most important factors. As a rule, soils are deficient in some of the elements necessary to the wellbeing of the plants, and it is the successful gardener who studies the question of manuring, and supplies the right elements in the correct proportions at the most favourable time, who always produces the best vegetables.

The amateur who crams as much manure into the ground as possible irrespective of chemical combinations is likely to be sadly disappointed.

Three main foods are necessary for the wellbeing of all plant life—nitrogen, phosphoric acid and potash. Each of these are essential, and if any one of them is deficient no excess of the other will make good the deficiency; but if plants are given a free supply of nitrate, phosphate and potash, under healthy conditions, they will grow and flourish.

Facts to remember are:—(1) Nitrates promote growth, especially foliage; (2) phosphates promote free and good flowering and fruiting, and assist seed formation; (3) potash promotes fibrous growth and improves the quality of the plants.

Discretion must be used in the use of all manures. With surface feeding crops food should be made available in the top six inches of soil. When seeds are planted direct into drills manures should be distributed at a lower level (two or three inches) than the seed itself. This is accomplished by opening a deep drill, the bottom of which is lightly covered with fertiliser, and replacing about two inches of soil before sowing the seed.

ARTIFICIAL MANURES

Superphosphate is the main source of supply of phosphoric acid, the presence of which is necessary for early root development and the general health of the root system, as well as of the plant itself.

Bone dust and blood and bone also contain a large percentage of phosphoric acid.

Sulphate of ammonia and nitrate of soda supply the most important of all plant foods, nitrogen. It ensures the development of the leaf and stem growth, and has a general stimulating effect. Nitrate of soda is more quickly available to plant life, and a little care is necessary in its use. More frequent and smaller applications are necessary. Sulphate of ammonia has a tendency to leave the soil more acid.

Potash in its several forms—sulphate, muriate and nitrate, the latter form also supplies nitrogen—has the job of strengthening and developing the fibre and tissues of plants. It increases the starch and sugar content of crops such as potatoes, and is generally beneficial to all root crops.

Market garden manure is a popular ready-mixed, complete fertiliser, which will give good results with any crop, used at the rate of 2 oz. per square yard. A match box well filled holds an ounce of fertiliser. For those who desire to mix their own the following will be found useful:—1 part sulphate of ammonia, 2 parts blood and bone, 4 parts superphosphate, and 1 part sulphate of potash. For sandy soil increase the potash to 2 parts.

NATURAL MANURES

During the present time artificial fertilisers are hard to obtain, and recourse has to be made to the old and tried natural manures, so a few hints on them may be helpful. Natural manures added to each crop in the garden are not only a continual source of plant food, but will improve the physical condition of the soil as well.

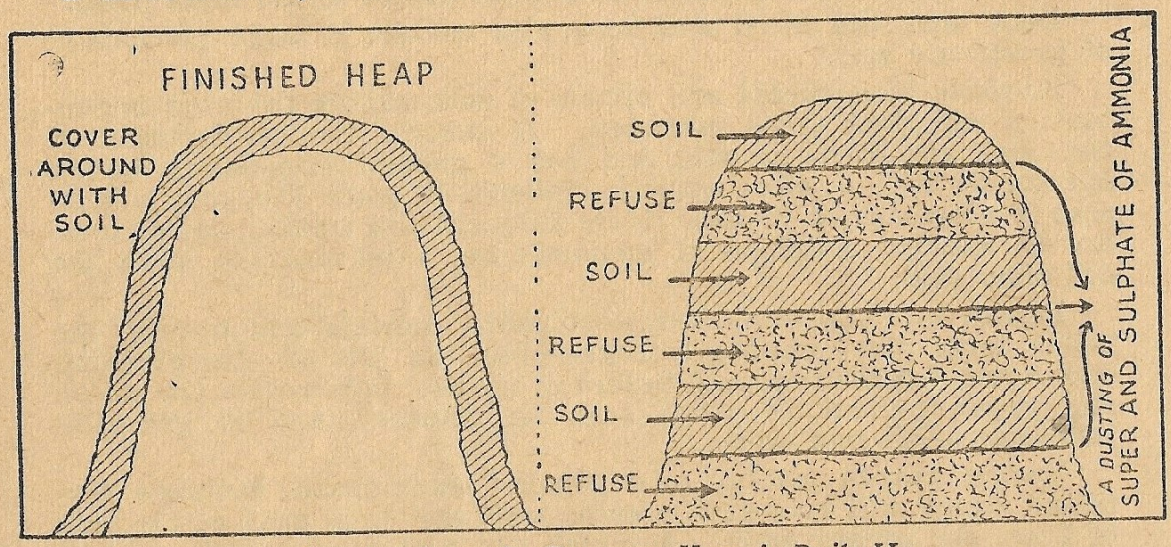
Horse manure is loose in texture and one of the best for the vegetable garden, but, is slightly deficient in phosphates and potash, and the addition of small quantities of these will make it a better balanced manure for all-round use. When well decayed and finely broken it makes an excellent mulch for seed beds, especially in summer.

Cow manure, though not as heating as horse manure, is, nevertheless, particularly useful. It is slow-acting. Well-decayed cow manure applied near the time of planting will be of great value to any crop. It makes a liquid manure second to none.

Fowl manure furnishes fertilising elements in concentrated form, and should be mixed with some less active material to increase its bulk before being stacked or used in the garden. It makes an excellent liquid manure, but is rather strong and should be well diluted.

Sheep manure is another good natural manure if available.

Compost Heaps.—Excellent manure is formed from garden refuse if properly made. Dig a pit about 6 x 3 feet and 18 inches deep. Save all weeds, cuttings, leaves, vegetable or animal refuse—in fact, anything that will rot fairly quickly. Spread a layer in the bottom of the pit about 6 inches deep, and fork in a generous dusting of lime to assist decay. Cover this with a couple of inches of soil, and repeat the process till the pit is about 18 inches above the level of the ground, keeping each layer well covered with earth. In dry weather it may require watering occasionally to hasten decay. The compost should be ready for use in about two months in summer, but will take longer in the winter. To use the compost, spread about a three-inch layer over the bed before planting and dig well in.



Showing how the Compost Heap is Built Up.

Green manuring is beneficial to both sandy and heavy soils. The practice of green manuring, which is the digging under of a green crop, is an effective method of applying humus to the soil and increasing its fertility and nitrogen content, especially if a leguminous crop has been grown. Any soil that is deficient in humus will be improved by green manuring. The addition of humus to the soil will improve its texture, and also its power of absorbing and retaining moisture.

When a crop is buried the surface soil becomes enriched by the nourishing materials which the crop, during the period of its growth, has drawn from the air and from the lower portions of the subsoil.

The soil has been stirred up and disintegrated by the development of the roots during its growth, and when dug under, provided that sufficient moisture and warmth are present, the crop will readily decompose, and the succeeding crop will thus benefit from the fertilising ingredients contained in the decaying mass of vegetable matter.

To obtain the full benefit from such a crop, the plants should be dug in just when they commence to flower and at a time when the soil is moist. It is an advantage to dust the soil with lime before digging in to assist decay. The bed should be then left for a few weeks before planting.

The effect of green manuring on sandy soils is to consolidate them, the humus formed binding the particles together. On clay soils the addition of humus will loosen and aerate them.

There are many crops suitable for green manuring. Anything that makes rapid and luxuriant growth, and that can readily be turned over, will answer the purpose. Consideration should be given to the time of the year when it is desired to have the crop in readiness, its suitability to soil, etc., when making a selection. Leguminous plants, such as clover, peas, lupins, etc., are always useful, because they obtain their nitrogen from the air. They are suitable for soils deficient in nitrogen, as they enrich the soil with this ingredient. Other crops, such as mustard, can also be used advantageously.

Peatmoss is rather expensive, but is very good for providing humus in sandy soil and for use as a mulch in summer. It contains no weed seeds, and can hold water equal to fifteen times its own bulk.

Seaweed is largely used in some countries, but care is necessary, as seaweed usually contains a high percentage of salt, which is not appreciated by many plants, and they will resent its application.

Soot should never be wasted; it is an insecticide as well as a good fertiliser, and contains iron, magnesium, potassium, phosphoric acid and several other substances, all of which have beneficial effects.

LIQUID MANURES

Artificial.—The most common "artificials" are sulphate of ammonia and nitrate of soda dissolved in water, and then watered into the ground around the plants. Sulphate of ammonia is used at the rate of 1 oz. to 2 gallons of water and nitrate of soda, 1 oz. to a gallon of water.

Animal.—Liquid manure made from cow, horse, sheep or poultry manure is the ideal way of supplying the growing plants with the stimulants they need. The usual method of making is to fill a sugar bag with manure and suspend it in a drum or cask holding about 20 gallons of water, and leave for a week. The liquid should then be broken down to the colour of weak tea (about 1 part to 4 parts of water) before using.

Urine is a good natural substitute for sulphate of ammonia broken down to 1 part in 4 parts of water. This is largely used by Chinese market gardeners.

Permanganate of potash (Condy's crystals) used at the rate of ¼ oz. to 2 gallons of water, sprinkled over 3 square yards is a good tonic. Plants treated will show a marked increase in colour and vigour.

Epsom salts is another good tonic for sickly plants, used at the rate of ½ oz. to a gallon of water.

LIME

Lime is never a fertiliser, but the addition of lime has a good chemical effect on some types of soils. Sourness, which is decidedly injurious to the wellbeing of certain crops, is overcome by the free

use of lime. Peas, beans and other members of this family are particularly sensitive to sour conditions, as are turnips and root crops generally. The addition of lime to heavy clay soils has the effect of granulating the clay particles, and so makes the ground more friable and easy to work, besides improving its condition as a medium for root development.

By lowering the acidity of some soils it makes conditions more favourable for the life of beneficial bacteria.

Its chemical action in the soil sets free food materials which would otherwise remain inert and unavailable for the use of plant life. Sour soils, for instance, may contain large quantities of rich organic substances that are of no use to plant life in their existing conditions—in fact, their presence in the soil is detrimental—but a judicious application of lime will soon render it sweet and friable, the organic matter having been converted into available plant food. The occasional application of lime on an old garden soil that has been heavily cropped and liberally manured often produces an almost magical effect.

Vegetables especially sensitive to acidity in the soil are onions, lettuce, beans, peas, beet and melons, and where crops of these are not successful an application of lime will be found beneficial. Autumn and winter are the best periods to dress the land with lime. The amount required depends a good deal on the soil in question, as light, sandy soils require much less than the heavy, clay variety. A fair average requirement would be about one pound to every twenty square yards.

Never use lime in conjunction with animal manure or artificial fertiliser, but always apply it at least three weeks beforehand.

Rotation of Crops and Intercropping

The art of cropping a vegetable garden is one of the most important phases of vegetable culture. You may prepare and manure your soil in the most skilful manner, obtain the best strains of vegetables, and pay every attention to other cultural details, but you may still fail to attain the zenith of perfection in vegetable cultivation if you neglect the all-important subject of proper rotation of crops.

It is well known to experienced gardeners that crops of one kind, say, cabbages and cauliflowers, or turnips, which belong to one family, should not succeed each other.

Besides, it must be borne in mind that shallow-rooted and deep-rooted vegetables obtain their supplies from different depths of soil. Hence the roots of cabbages feed in the upper layer of soil only, whilst those of the carrot and parsnip obtain their food lower down. It stands to reason, therefore, that if we grow cabbages one time on a plot, parsnips the next, another shallow-rooted vegetable the third, and a deep-rooted one the fourth, we shall be alternatively giving the upper and lower layers of soil and their reserves of plant food a rest time to recouperate and replenish and maintain an even standard of fertility.

Apart from the chemical or plant food reasons, there is another and still equally important one to be studied. By growing any of the cabbage tribe continually on the same plot the soil is liable to become infected with the club root disease, thus rendering it difficult to grow such a crop healthily or successfully. But if we first grow cabbage on the plot, and either potatoes or parsnips next, and onions or beans the following time, we allow a couple of years for the disease to be starved out or obliterated before the cabbage crop again occupies the land.

If the ground for the first season is divided into three sections, which are confined to certain types of vegetables, a change-over from one group to another is more readily accomplished.

The sections suggested are:—

Legumes—Peas, beans, etc.
Green or Leaf Crops—Cabbage, lettuce, spinach, etc.
Root Crops—Carrots, beet, onions, etc.

Each of these classes make use of the plant foods in the soil in different rates from the other two, and by crop rotation the soil is allowed to recover to some extent and build up again for the following crop. The best rotation is legumes, followed by green or leaf crops, followed by root crops. The latter generally do best on the land that has been thoroughly prepared for and has produced the other two in the order given without further feeding.

It is possible in a garden that is well looked after to practice intercropping, but it is a mistake to start without a definite and prearranged plan. It should be the aim of the cultivator to keep all the ground under a crop during the growing season, and this means sowing or planting again as soon as each crop is lifted. Often even this can be improved, and vegetables that mature quickly can be sown or planted between those that take a long time to mature. Thus spinach seed is frequently sown between the rows of maincrop potatoes, and is ready for picking before the latter need earthing up. Similarly, when the trenches for celery or leeks are opened up, a crop of lettuces can be taken off the ridges.

Radishes, cress and mustard are often grown between the rows of peas, and the slight shade cast by the peas is more to their advantage than otherwise, especially in a hot, dry summer.

This is known as intercropping, and should be practised wherever possible if the area is limited. It will be readily understood that this intensive cultivation takes a heavy toll of the fertilising elements in the soil, and the systematic addition of chemical fertilisers becomes an unavoidable necessity if the full vigour of the crop is to be maintained. Nitrogen is the element which becomes exhausted soonest, and periodical dressings of sulphate of ammonia are required to restore fertility.

Hot Beds

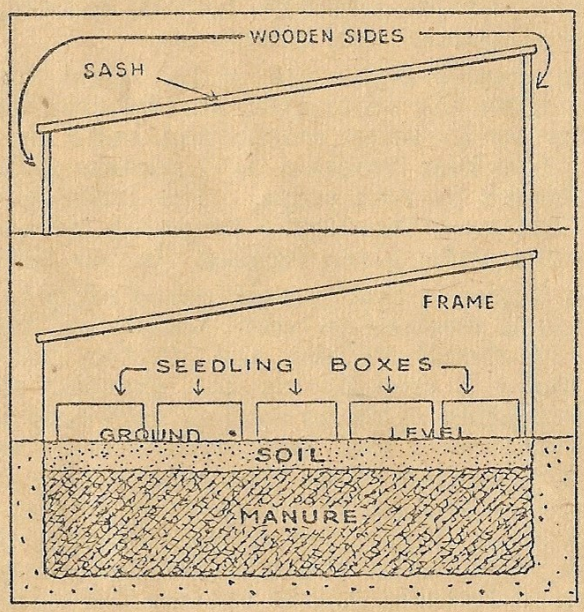
The hot bed proves invaluable for early sowings of many plants which would not otherwise have a sufficiently long growing period between the spring and autumn frosts. It also enables the gardener to have early crops of such things as tomatoes, melons and cucumbers.

A useful sized hot bed would be about 4 x 5 feet. Select a site, if possible sheltered from the south, and mark out the size. Remove

the soil to depth of 12 inches. Around the edges of the pit a frame is built to a height of 15 inches at the back, sloping to 12 inches at the front. The fall of 3 inches is necessary for the draining of water from the glass which forms the roof the frame. A second-hand window sash makes a suitable top. It must, however, fit well, as a draught will check the plants.

The pit is then filled with fresh stable manure, which is built up layer by layer and well trampled. When it has been firmly packed, cover with a 2-inch layer of soil.

Leave the cover tilted for a few days, and test the heat by inserting a thermometer into the bed to the depth of a foot. When it registers about 90 degrees the bed can be used. If a thermometer is not available, plunge in a stick. This can be pulled out every day and tested, and when the part that has been inserted can be held comfortably in the hand the bed is ready.



Hot Bed showing Construction of the Frame.

Seeds are usually sown in boxes, and then placed in the frames. Ventilation is necessary as the plants grow. Cucumbers and melons can be sown in jam tins, with the top and bottom removed, or pots. They can then be transplanted without disturbing the roots. Two or three seeds are sown in each, and if more than one germinates remove all but the strongest.

Sowing Seed

While some varieties of vegetables, such as peas and beans, are sown direct into the beds where they are to be grown, many can be raised in seed beds or boxes, and transplanted later to their growing position. By this method many weeks of comparative non-productiveness of beds can be avoided, which is a big item in a small garden. Seeds of frost-tender plants, such as tomatoes, can also be started earlier if grown in boxes and the boxes placed under cover every night.

A handy size box that will hold sufficient plants for a succession of plantings is one 12 x 15 inches and about 5 inches deep, with a few holes in the bottom for drainage.

Place a layer of clinker ash, coarse gravel or other porous material to provide drainage in the bottom, and fill with a light, sandy loam with which has been mixed some well-rotted horse or cow manure or leaf mould. Level off and "dump" the box lightly to settle the soil. The seed can either be broadcast thinly or sown in rows, and covered to a depth of approximately twice the thickness of the seed. In the summer mulch with a covering of finely-rubbed horse manure, peatmoss or leaf mould. The contents of the box should be thoroughly dampened without disturbing the surface. A very fine rose on a watering can is best or water through a sheet of newspaper laid over the box. In the summer keep the seed boxes or beds well shaded from the hot sun, and do not allow them to become dry.

The seed beds should be raised at least 3 inches above the level of the path and very finely broken down.

The seed boxes or beds should not be made of rich soil, as lanky plants, with little root growth, will result. When transplanted into the richer ground of their growing quarters they will simply leap ahead.

The biggest pests with seedlings are snails and slugs, but Metabait, placed around the bed or boxes, will keep them off.

In some localities it may be necessary to sterilise the seed beds. Treatment should be commenced about a fortnight before sowing the seeds. A 2 per cent. formalin solution (2 parts of commercial formalin to 100 of water) is generally used. The solution is applied with a watering can at the rate of about 1 gallon to each square foot of soil. The soil is then covered with bags, and left for several days. At the end of this time the soil should be well forked over to free it from fumes before planting.

If "damping off" should occur it can be controlled with Cheshunt Compound. The compound is prepared by mixing 2 oz. finely-powdered copper sulphate and 1 oz. fresh ammonium carbonate. This is stored in a glass jar for at least 24 hours, and is prepared for use by dissolving 1 oz. of the dry mixture in a little hot water, and adding 2 gallons of cold water. This solution must not be placed in a metal vessel. To use, pull up the affected plants, water the soil from which they have been taken, and the ground around the healthy plants with the solution to prevent the spread of the disease. In replacing individual plants, remove the affected plant, water the hole with a pint of the solution, replant with a healthy one, and again water with the solution.

Transplanting

When lifting young vegetable plants from the seed bed care should be taken not to damage the root growth more than is absolutely necessary. Very little harm will be occasioned, provided they have been sown in rows or drills. Use the trowel or hand fork for this purpose, and lift the young plants with as much soil as possible adhering to the roots. The surface soil of the permanent bed should have been previously worked to a fine tilth, in order to assist the seedlings as much as possible in establishing a good start.

If possible, choose a dull or showery day for transplanting, preferably the afternoon. Open up the holes with a dibble or pointed stick, and set the plants a little deeper than the position occupied in the seed bed, being careful to see that the roots touch the bottom of the hole, and pack the soil firmly round each plant without injuring it. Before planting out shorten back the leaves by about one-third, and dip the whole plant in water before setting in the ground. This will greatly assist the young plants while taking hold of the soil in their new location. Give them a good soaking, and if the weather continues dry apply water daily, both early morning and late afternoon.

Mulching will also prove of great advantage in hot, dry weather. Rakings of dead leaves, rotted stable manure, etc., will answer the purpose well. It is important that regular and systematic cultivation be resorted to, and every encouragement given to produce a speedy and healthy growth.

Watering

Evening watering for vegetable plants is preferable, as, when the sun is shining brightly, the rapid evaporation of moisture from the leaves will cause scorching. The sun also takes the moisture, and with it the warmth, out of the soil, thus lowering the temperature.

Plants need an abundance of water, as they are largely made up of that commodity. When freshly planted, a liberal supply is necessary to enable them to catch hold and grow.

During dry seasons heavy applications that will penetrate several inches are recommended. Surface waterings cause the plants to send roots upwards instead of downwards. A garden sprinkler, such as is used on lawns, or a special irrigation is very helpful. If these are started about 4 o'clock in the afternoon and run until bedtime they will suffice.

Never use mere driblets; it is more economical and useful to give sufficient water to moisten the soil thoroughly for a foot or more beyond the plant than to pour it close to the stem only.

If seed beds are watered in the daytime, cover the bed over until the sun loses its power. When liquid manure is to be applied in dry weather, moisten the soil first with water.

Cauliflower, carrots and most garden crops grown on light, sandy soil are benefited by mulchings of decayed manure or lawn clippings. These materials conserve the moisture, and shield the surface roots from the hot rays of the sun.

Cultivation, etc.

Thorough preparation of the soil plays an important part in successful vegetable gardening. It is a mistake to carry on seed sowing without soon giving attention to the beds for planting out the seedlings. The aim of the gardener should be to grow his plants without a check. Seedling plants left in nursery beds when they

are crying out for more room and a chance to make headway will certainly bring about a check from which some of them will not properly recover.

A good tilth and well-pulverised surface are the main soil necessities in the vegetable garden. Frequent cultivation will keep in the soil moisture, and will obviate the necessity for constant surface waterings.

It must always be remembered that the vegetable garden requires more water than the flower garden, owing to the quick growth of the plants. Quickly-grown vegetables are more tender and more luscious than slowly-grown ones. Thus a good water supply should be maintained. Weeds are great moisture robbers, and should be rigorously kept out of the vegetable garden at all times.

Systematic and thorough hoeing should always follow watering or rain as soon as the surface is sufficiently dry and can be worked without turning over in sticky lumps. The benefit thus derived will make crops reach maturity much earlier than if left untouched.

In very dry weather the ground often breaks into large, deep cracks. Even after rain has fallen and the sun comes out again, the surface frequently breaks, and smaller cracks and crevices quickly appear. Moisture escapes through these openings. Surface cultivation will overcome this trouble to a large extent, and, besides forming a mulch to prevent evaporation, it has that other great advantage of killing weeds in the same operation.

After bringing the surface to a fair level, free it of all debris and stones, then rake and crossrake systematically until the whole area has been carefully cultivated. After rain, the garden should always be gone over with some implement to break the surface into a mulch, as well as to kill all the weeds that may have sprouted.

There are many practical reasons why surface cultivation should be adopted, and the following may be emphasised:—It aerates the soil and kills the weeds; it makes a perfect soil mulch or blanket; it sweetens the soil and quickens growth, thus saving time and work; it pays for itself in increased yields in a single season, and makes gardening pleasurable as well as profitable.

Experience has taught gardeners that if they do not eradicate weeds constantly these intruders will quickly outdistance the plants, and in the jungle of weeds the plants become undersized, undeveloped and flavourless. Weeds are ruthless invaders, sufficiently powerful to overcome any resistance the plants may offer, and take from the soil that moisture and nutriment so sorely needed.

But weeds do not stop with this. They hinder thorough and proper cultivation. They harbour injurious insects and fungi. Often they entirely block a system of underground drainage. They diminish the ease with which crops can be harvested. Their seeds reduce the value of the harvest. They take up the room, and they absorb much of the light, air and heat that the plant should have.

Succession

Do not plant heavy crops of vegetables. It is far better to plant a few and have a succession of crops.

One of the main factors in successful vegetable growing is being able to maintain regular supplies in rotation, instead of having too much of any one vegetable at the one time. Use any plants you have to their full capacity, and have another lot available for production when those have finished bearing.

Decide the amount of land that is to be allotted to each variety, mark it off, and reserve it for that particular crop. Then sow or plant the vegetables in short rows at intervals of a fortnight, thereby supplying the household wants regularly.

All vegetable crops should be thinned early, partly because delay means overcrowding, and weakly plants result, and because there is less disturbance of the roots of those that remain if the work is done while the plants are yet small. Generally speaking, it is best to make two operations of the thinning—the first time as soon as the seedlings have grown big enough to handle, which is just when they have made their first true leaves, and again when they are considerably larger, when they are thinned out to the proper distance before maturing.

There is usually a thrifty vein in the gardener who grows vegetables at home, and the hardest lesson to learn is that they must be thinned. It seems wasteful to pull up perfectly healthy young plants and discard them. Lettuces may be freely transplanted, and there is little trouble in thinning these, but to take out and discard carrots, parsnips, parsley or beans just to allow more room for the rest of the plants to develop goes against the grain.

Carrots and parsnips, at the second thinning, may be used as flavouring for soups. Carrots should be thinned until about 3 inches of space is allowed between each plant. That is sufficient for small-growing varieties, such as Early Short Horn, but large varieties, such as James' Intermediate require about 4 inches.

Parsnips do not germinate so freely as carrots, and fewer plants have to be taken out, but to obtain strong, good roots about 6 inches is the minimum space to be allowed between plants. Parsley will rapidly go to seed if the plants are thick in the row and have to struggle for food. A well-grown parsley plant requires 6 inches of space around it. A good germination of seed will provide young plants about an inch apart, so it will be seen that parsley requires an even more ruthless thinning than other vegetables.

Watering must be attended to if the ground is at all dry, and when this is done it is necessary that it be well done, even though it be seldom. When the nights are cold and the days are hot and dry, this operation should be commenced early in the afternoon, when the sun is on the decline. After a good watering allow the soil to become fairly dry, then hoe and pulverise, to loosen the surface. This means less need for watering. . If the ground be left the surface hardens and cracks, and the moisture is allowed to escape.

Give all vegetable beds a good mulching of manure or leaf mould if possible. This will be of great benefit to them, keeping the ground open and conserving the moisture during hot weather.

As soon as crops mature and are gathered, give the vacant ground, if required, a good dressing of manure, which should be deeply and thoroughly worked into it, finally bringing the soil to a fine tilth before planting the next crop.

Planting Calendar

JULY.

Artichoke, Jerusalem (tubers).
Asparagus (roots).
Cauliflower (plants).
Cabbage (plants).
Cress (seed).
Garlic (bulbs).
Horse Radish (roots).
Herbs (seed).
Lettuce (seed).
Mustard (seed).
Onion (seed and plants).
Peas (seed).
Radishes (seed).
Rhubarb (roots).
Shallots (bulbs).

AUGUST.

Artichoke, Jerusalem (tubers).
Asparagus (roots).
Beet, Red (seed).
Cauliflower (plants).
Cabbage (seed and plants).
Carrot (seed).
Cress (seed).
Horse Radish (roots).
Herbs (seed).
Lettuce (seed).
Mustard (seed).
Onion (plants).
Potatoes (tubers).
Peas (seed).
Radishes (seed).
Spinach (seed).
Salsify (seed).
Shallots (bulbs).
Tomato (seed latter part).
Turnips (seed).

SEPTEMBER.

Artichoke, Jerusalem (tubers).
Artichoke, Globe (seed).
Beans, French (seeds latter part).
Beans, Butter (seed latter part).
Beans, Climbing (seed latter part).
Beet, Red (seed).
Beet, Silver (seed).
Cabbage (seed and plants).
Carrot (seed).
Capsicums (seed latter part).
Chokos (tubers latter part).
Cress (seed).
Cape, Gooseberry (seed).
Celery (seed).
Cucumbers (seed latter part).
Endive (seed).
Herbs (seed).
Leek (seed).
Lettuce (seed).
Mustard (seed).
Melons (seed latter part).
Potatoes (tubers).
Parsnip (seed).
Pumpkin (seed latter part).
Parsley (seed).
Peas (seed).
Radish (seed).
Spinach (seed).
Salsify (seed).
Squash (seed latter part).
Sweet Corn (seed latter part).
Tomato (seed and plants latter part).
Turnip (seed).
Vegetable Marrow (seed latter part).

OCTOBER.

Artichoke, Jerusalem (tubers).
Artichoke, Globe (seed).
Beans, French (seed).
Beans, Butter (seed).
Beans, Climbing (seed).
Beans, Lima (seed).
Beet, Red (seed).
Beet, Silver (seed).
Cabbage (plants).
Carrot(seed).
Capsicum (seed).
Chokos (tubers).
Cape Gooseberry (seed).
Celery (seed).

(For varieties recommended consult the cultural directions of the vegetable.)

PLANTING CALENDAR—*Continued*

OCTOBER—Continued.

Cucumber (seed).
Egg Plant (seed).
Endive (seed).
Gherkins (seed).
Herbs (seed).
Leek (seed).
Lettuce (seed).
Mustard (seed).
Melons (seed).
Parsnip (seed).
Pumpkin (seed).
Parsley (seed).
Peas (seed).
Radish (seed).
Spinach (seed).
Salsify (seed).
Squash (seed).
Sweet Corn (seed).
Tomato (seed and plants).
Turnip (seed).
Vegetable Marrow (seed).

NOVEMBER.

Beans, French (seed).
Beans, Butter (seed).
Beans, Climbing (seed).
Beans, Lima (seed).
Beet, Red (seed).
Beet, Silver (seed).
Broccoli (seed).
Cabbage (plants).
Carrot (seed).
Cress (seed).
Celery (seed).
Cucumber (seed).
Endive (seed).
Gherkins (seed).
Leek (seed).
Lettuce (seed).
Mustard (seed).
Melons (seed).
Parsnip (seed).
Pumpkin (seed).
Peas (seed).
Radish (seed).
Squash (seed).
Sweet Corn (seed).
Tomato (seed).
Turnip (seed).
Vegetable Marrow (seed).

DECEMBER.

Beans, French (seed).
Beans, Butter(seed).
Beans, Climbing (seed).
Beans, Lima (seed).
Beet, Red (seed).
Beet, Silver (seed).
Borecole (seed).
Broccoli (seed).
Brussels Sprouts (seed).
Cauliflower (seed).
Cabbage (seed).
Carrot (seed).
Celery (seed).
Cucumber (seed).
Gherkins (seed).
Lettuce (seed).
Mustard (seed).
Melons (seed).
Parsnip (seed).
Pumpkins (seed).
Peas (seed).
Radish (seed).
Squash (seed).
Sweet Corn (seed).
Tomato (seed and plants).
Turnip (seed).
Vegetable Marrow (seed).

JANUARY.

Beans, French (seed).
Beans, Butter (seed).
Beet, Red (seed).
Beet, Silver (seed).
Borecole (seed).
Broccoli (seed and plants).
Brussels Sprouts (seed).
Cauliflower (seeds and plants).
Cabbage (seed and plants).
Chinese Cabbage (seed).
Carrot (seed).
Cress (seed).
Kohl Rabi (seed).
Lettuce (seed).
Mustard (seed).
Potatoes (tubers).
Parsnip (seed).
Peas (seed).
Radish (seed).
Sweet Corn (seed early part).
Tomato (plants).
Turnip (seed).

PLANTING CALENDAR—*Continued*

FEBRUARY.

Beans, French (seed early part).
Beans, Butter (seed early part).
Beans, Broad (seed latter part).
Beet, Red (seed).
Beet, Silver (seed).
Borecole (seed and plants).
Broccoli (seed and plants).
Brussels Sprouts (seeds and plants).
Cauliflower (seeds and plants).
Cabbage (seeds and plants).
Chinese Cabbage (seed and plants).
Carrot (seed).
Cress (seed).
Endive (seed).
Kohl Rabi (seed).
Leek (seed).
Lettuce (seed).
Mustard (seed).
Onion (seed).
Potatoes (tubers early part).
Parsnip (seed).
Parsley (seed).
Peas (seed).
Radish (seed).
Spinach (seed).
Salsify (seed).
Turnip (seed).

MARCH.

Beans, Broad (seed).
Broccoli (plants).
Brussels Sprouts (plants).
Cauliflower (seeds and plants).
Cabbage (seeds and plants).
Chinese Cabbage (seed and plants).
Carrot (seed).
Cress (seed).
Endive (seed).
Kohl Rabi (seed and plants).
Leek (seed).
Lettuce (seed).
Mustard (seed).
Onion (seed).
Parsley (seed).
Peas (seed).
Radish (seed).
Spinach (seed).
Salisify (seed).
Turnip (seed).

APRIL.

Beans, Broad (seed).
Cauliflower (seed and plants).
Cabbage (seeds and plants).
Chinese Cabbage (seeds and plants).
Cress (seed).
Endive (seed).
Garlic (bulbs).
Kohl Rabbi (seeds and plants).
Leek (seed).
Lettuce (seed).
Mustard (seed).
Onion (seed and plants).
Radishes (seed).
Rhubarb (roots).
Spinach (seed).
Shallots (bulbs).

MAY.

Asparagus (roots).
Beans, Broad (seed).
Cauliflower (plants).
Cabbage (seed and plants).
Chinese Cabbage (plants).
Cress (seed).
Endive (seed).
Garlic (bulbs).
Herbs (seed).
Lettuce (seed).
Mustard (seed).
Onion (seed and plants).
Radish (seed).
Rhubarb (roots).
Shallots (bulbs).

JUNE.

Asparagus (roots).
Broad Beans (seed).
Cauliflower (seed).
Cabbage (plants).
Cress (seed).
Garlic (bulbs).
Horse Radish (roots).
Herbs (seed).
Lettuce (seed).
Mustard (seed).
Onion (seed and plants).
Radish (seed).
Rhubarb (roots).
Shallots (bulbs).

DISTANCE TABLE FOR PLANTING

Vegetable.	Sow or Plant.	Depth to Sow Seed.	Distance Between Rows.	Distance Between Plants.
Artichoke, Jerusalem	tubers	6 inches	24 inches	15 inches
*Artichoke, Globe	plants	¼ inch	30 inches	18 inches
Asparagus	crowns	6 inches	24 inches	15 inches
Bean, French	seed	½ inch	18 inches	4 inches
Bean, Butter	seed	½ inch	18 inches	4 inches
Bean, Climbing	seed	½ inch	30 inches	8 inches
Bean, Broad	seed	1 inch	24 inches	6 inches
Bean, Lima	seed	1 inch	24 inches	12 inches
Beet, Red	seed	½ inch	15 inches	6 inches
*Beet, Silver	seed & pls.	½ inch	18 inches	15 inches
*Brussels Sprouts	plants	¼ inch	24 inches	15 inches
*Borecole	plants	¼ inch	24 inches	15 inches
*Broccoli	plants	¼ inch	18 inches	15 inches
*Cabbage	plants	¼ inch	24 inches	18 inches
Carrot	seed	¼ inch	12 inches	4 inches
*Cauliflower	plants	¼ inch	24 inches	18 inches
*Capsicum	plants	¼ inch	24 inches	15 inches
*Chinese Cabbage	plants	¼ inch	18 inches	15 inches
Choko	fruit	6 inches	along a fence	6 feet
*Celery	plants	⅛ inch	24 inches	6 inches
*Cape Gooseberry	plants	¼ inch	36 inches	24 inches
Cress	seed	¼ inch	2 inches	1 inch
Cucumber	seed	½ inch	4 ft. or hills	18 inches
*Egg Plant	plants	¼ inch	24 inches	12 inches
*Endive	plants	¼ inch	12 inches	10 inches
Garlic	bulbs	2 inches	12 inches	6 inches
*Kohl Rabi	plants	¼ inch	15 inches	9 inches
Leek	plants	¼ inch	18 inches	8 inches
Lettuce	seed & pls.	⅛ inch	15 inches	10 inches
*Marjoram	plants	¼ inch	12 inches	6 inches
Melon	seed	½ inch	6 ft. or hills	
Melon, Rock	seed	½ inch	4 ft. or hills	
Mustard	seed	¼ inch	2 inches	1 inch
Mint	roots	2 inches	12 inches	6 inches
Onion	plants	¼ inch	15 inches	8 inches
Onion, Spring	plants	¼ inch	12 inches	3 inches
Parsley	seed	¼ inch	18 inches	6 inches
Parsnip	seed	¼ inch	15 inches	6 inches
Pea	seed	¾ inch	24 inches	4 inches
Potato	tubers	6 inches	24 inches	15 inches
Pumpkin	seed	1 inch	8 ft. hills	
Radish	seed	¼ inch	6 inches	2 inches
Rhubarb	roots	crown clear	36 inches	36 inches
Salsify	seed	¼ inch	12 inches	4 inches
*Sage	plants	¼ inch	12 inches	
Shallott	bulbs	2 inches	12 inches	6 inches
Spinach	seed	¼ inch	15 inches	8 inches
Squash	seed	½ inch	4 ft. hills	
Sweet Corn	seed	1½ inches	30 inches	8 inches
*Thyme	plants	¼ inch	12 inches	6 inches
*Tomato	seed	¼ inch	30 inches	24 inches
Turnip	seed	¼ inch	12 inches	6 inches
Turnip, Swede	seed	¼ inch	12 inches	8 inches
Vegetable Marrow	seed	½ inch	4 ft. hills	

As a general guide to depth of planting, fine seeds need very little covering, while large seeds need up to ½ inch of covering. *Sow in Seed Beds or Boxes and Transplant.

MATURITY AND QUANTITY TABLE

Vegetable.	Time to Reach Maturity	Period of Usage.	Frequency of Planting.	Quantity to Plant.
Artichoke Jerusalem	6 months	2 months	yearly	1 lb. for 30 ft. row
Artichoke, Globe	5 months	2 months	yearly	1 doz. plants for 15 ft. row
Asparagus	12 months	3 months	yearly	1 doz. plants for 15 ft. row
Bean, French	2 months	3 weeks	fortnightly	¼ lb. seed to 20 ft. row
Bean, Butter	2 months	4 weeks	fortnightly	¼ lb. seed to 20 ft. row
Bean, Climbing	3 months	2 months	yearly	Packet seed to 30 ft. row
Bean, Broad	3 months	6 weeks	monthly	¼ lb. seed to 30 ft. row
Bean, Lima	3 months	2 months	monthly	Packet seed to 40 ft. row
Beet, Red	3 months	2 months	2 months	Packet seed to 30 ft. row
Beet, Silver	3 months	6 months	twice yearly	1 doz. plants to 15 ft. row
Borecole	5 months	6 weeks	yearly	1 doz. plants to 15 ft. row
Broccoli	4-8 months	6 weeks	twice yearly	1 doz. plants to 15 ft. row
Brussels Sprouts	6-9 months	6-8 weeks	yearly	1 doz. plants to 15 ft. row
Cabbage	4-6 months	6-8 weeks	2 months	1 doz. plants to 18 ft. row
Carrot	5 months	2-3 months	3rd month	Packet seed to 50 ft. row
Cauliflower	6-8 months	6-8 weeks	2 months	1 doz. plants to 24 ft. row
Capsicum	5-6 months	1-2 months	yearly	1 doz. plants to 15 ft row
Chinese Cabbage	3 months	1 month	twice yearly	1 doz. plants to 15 ft row
Celery	6-8 months	2 months	thrice yearly	1 doz. plants to 6 ft. row
Choko	6-8 months	3 weeks	yearly	2 or 3 fruit
Cape Gooseberry	6-8 months	3-6 weeks	yearly	1 doz. plants to 24 ft. row
Cress	4 weeks	2 weeks	fortnightly	3 or 4 ft. of row
Cucumber	3-4 months	2-3 months	yearly	1 doz. plants to 24 ft. row
Egg Plant	6-months	3 weeks	yearly	1 doz. plants to 24 ft. row
Endive	2 months	3 weeks	3 weeks	1 doz. plants to 8 ft. row
Garlic	5 months	2-3 months	yearly	½ lb. bulbs to 20 ft. row
Kohl Rabi	5 months	3-4 weeks	monthly	1 doz. plants to 10 ft. row
Leek	6 months	6 weeks	twice yearly	1 doz. plants to 8 ft. row
Lettuce	10 weeks	2-3 weeks	fortnightly	8 or 10 ft. of row
Marjoram	5 months	6 months	yearly	4 or 5 plants
Melon	5 months	6 weeks	yearly	½ doz. hills
Melon, Rock	5 months	2 months	yearly	½ doz. hills
Mustard	3 weeks	2 weeks	fortnightly	3 or 4 ft. of row
Mint	1 month	perennial	yearly	2 or 3 plants
Onion	3-6 months	—	3-4 times year	2 doz. plants to 16 ft. row
Onion, Spring	8 weeks	2-3 weeks	fortnightly	3 or 4 ft. of row
Parsley	4 months	6 months	twice yearly	½ doz. plants
Parsnip	5 months	2-3 months	2-3 months	30 ft. row
Pea	3-4 months	1 month	monthly	30 ft. row
Pumpkin	4-5 months	2-3 months	yearly	½ doz. hills
Potato	3-5 months	2 months	twice yearly	14 lbs. to 100 ft. row
Radish	4-6 weeks	2 weeks	fortnightly	5 ft. row
Rhubarb	—	5 months	yearly	3 or 4 plants
Salsify	4-5 months	2-3 months	twice yearly	20 ft. row
Sage	5 months	6 months	yearly	4 or 5 plants
Shallott	2 months	3-4 months	yearly	10 ft. row
Spinach	8 weeks	fortnightly	fortnightly	40 ft. row
Squash	3 months	1-3 months	yearly	½ doz. hills
Sweet Corn	3 months	3 weeks	twice yearly	20 ft. row
Thyme	12-16 weeks	6 months	yearly	3 or 4 plants
Tomato ..	4-5 months	8-10 weeks	2-3 times year	doz. plants to 30 ft. row
Turnip	12-14 weeks	3 weeks	monthly	20 ft. row
Turnip, Swede	4-5 months	6 weeks	2 months	20 ft. row
Vegetable Marrow	3 months	2 months	yearly	½ doz. hills

Sufficient vegetables for a constant supply for the average family will be obtained from a selection of plantings using the above quantities.

Vegetable Growing

ARTICHOKES—JERUSALEM
Plant July to October

The Jerusalem Artichoke is a very hardy plant, and may be grown in almost any soil or situation. It does best, however, in a moderately rich, strong, sandy loam, in a situation that is not too dry. The land should not be highly manured, as when the soil is very rich the plants have a tendency to make over-luxuriant growth of tops at the expense of the roots. The crop may be grown for several years in succession in the same ground without seriously deteriorating.

Plantings should be made in the spring about October, and take about five or six months to mature. Plant in drills 6 inches in depth and 2 feet apart, the sets being placed 12 to 15 inches apart in the drills. The sets should be of medium size only. A pound of tubers will plant an area approximately 15 x 5 feet.

Earth up the plants when sufficiently grown, and pinch the tops off the stem when about 4 feet high. This will prevent them growing too tall and increase the crop. They are ready for digging when the top growth wilts and turns yellow. Leave the tubers in the ground, lift as required, and dig the remainder and replant before the crop begins to grow. The ground should be only moderately manured with cow manure or superphosphate; add a little potash when the tops are pinched out.

When cooking the tubers, they should be scraped or peeled, and then soaked in a dish of cold water to which has been added a teaspoon of vinegar, for ten minutes before cooking.

ARTICHOKES—GLOBE
Plant September and October

Globe Artichokes are grown from seed. Planted in seed beds in the early spring, they take about 5 months to mature from the transplanting of the seedlings.

Plant in rows 2 feet 6 inches apart and 18 inches between the plants. They will grow in any good garden soil, but need plenty of water, and kept well cultivated. They grow about 3 feet 6 inches high, but staking is usually unnecessary.

As the buds form, watering with liquid nitrate of soda will assist in increasing the size of the heads. The part used for cooking is the lower portion of the scales and their receptacle at the base of the flower. They are boiled until tender and served with melted butter.

ASPARAGUS
Plant May to Early August

A carefully managed asparagus bed will last for a long time, and will bear large crops for a period of 15 to 20 years. It is essential, therefore, that the bed be well prepared beforehand.

The beds should be from 3 to 4 feet wide, and well trenched to a depth of at least 18 inches, incorporating plenty of garden rubbish and cow manure (if unavailable, market garden manure may be used) with the subsoil. There is practically no limit to the

amount of old rotted manure that may be incorporated with the topsoil. If necessary a mixture of 4 parts superphosphate and 1 part potash, applied at the rate of 2 oz. per square yard, may be used in addition. This mixture can also be used for dressing the ground after cutting is finished in the spring.

Two-year-old crowns are best, and they should be planted in rows 2 feet apart, 15 inches apart in the rows, and 6 inches deep. When planting spread out the roots radially, dipping downwards, and fill in the soil carefully by hand.

It is unwise to cut the first year. The cutting period can be lengthened each year, but is not usually more than from 10 to 12 weeks. After each cutting the plants should be allowed to fully mature their top growth, as the strength of the plant depends upon the proper development of this foliage.

After culture consists of keeping the beds free of weeds throughout the year. An occasional watering during very dry weather is desirable, and a dressing of nitrate of soda or sulphate of ammonia, one ounce to the square yard, should be given during the summer.

A light dressing of salt in August will be beneficial.

Liquid manure is of great value, and one ounce of sulphate of ammonia and two of superphosphate, dissolved in two gallons of water, make a good one for asparagus, and should be given throughout the cutting period. The same mixture and quantities in a dry state may be spread over two square yards. During the winter three or four inches of horse manure should be spread on top of the soil.

Asparagus should be cut for use when the tips of the shoots are about an inch above the surface. The shoots are cut under the surface, just above where the shoot leaves the crown, but care must be taken not to injure the crown.

The cutting of the dying stalks should take place when the foliage begins to turn yellow, just before the seeds are fully ripe.

BEANS—FRENCH

Sow Late September to Early February

Beans are one of the most satisfactory and productive vegetables, because they grow so vigorously and bear with such wonderful abundance. Plants of the bush beans range from 15 to 20 inches tall.

Beans do best when planted on medium rich soils. Very rich soil makes a rank growth of vine and few pods.

A light dressing of well rotted animal manure, or an artificial fertiliser, 6 parts superphosphate to 1 part potash and 1 part sulphate of ammonia, at the rate of 2 oz. to every 3 feet of running row, is sufficient. The fertiliser is best placed in a band 8 or 9 inches wide along the rows where the beans are to be sown, and worked lightly into the soil. Further light side dressings may be given while the beans are growing.

Plant half an inch deep in rows 18 inches to 2 feet apart and 4 inches between seeds. After sowing the seed, do not omit to tread the rows firmly. This will assist germination.

Give frequent shallow cultivation, and draw the soil up around the plants. Beans are very susceptible to red spider, and, when watering, the under-sides of the leaves should be well hosed to keep it in check.

The beans are most delicious if they are picked before they have reached full size, and the plants will continue bearing much longer.

The early varieties mature in about 60 days. To provide for a continuous supply, seed should be sown every 14 days.

There are many reliable varieties, including Canadian Wonder, the well-known old variety; Feltham Prolific and Perfect Bush, both early varieties, and especially desirable for early planting. A variety now coming into favour is Stringless Green Pod, a most tender and delicious bean. The vines make a good growth of dark green foliage, and bear a heavy crop of rather large pods of medium length and slightly curved. It produces in about 8 weeks, and may be used for either early or late planting. The pods are noted for their tenderness and freedom from strings, and will win favour in the eyes of any housewife.

BEANS—BUTTER

Sow Late September to Early February

This delicious type of French Bean is of a beautiful golden yellow colour, absolutely stringless when cut young, and possesses a delicate melting flavour.

Plant in rows 18 inches to 2 feet apart and four inches between seeds, in a medium rich soil. Manure and cultivate the same as French Beans.

They are very hardy and not subject to Bacterial Blight. The pods are easily prepared for the table, merely needing slicing.

The best varieties are Startler Wax and Golden Wax.

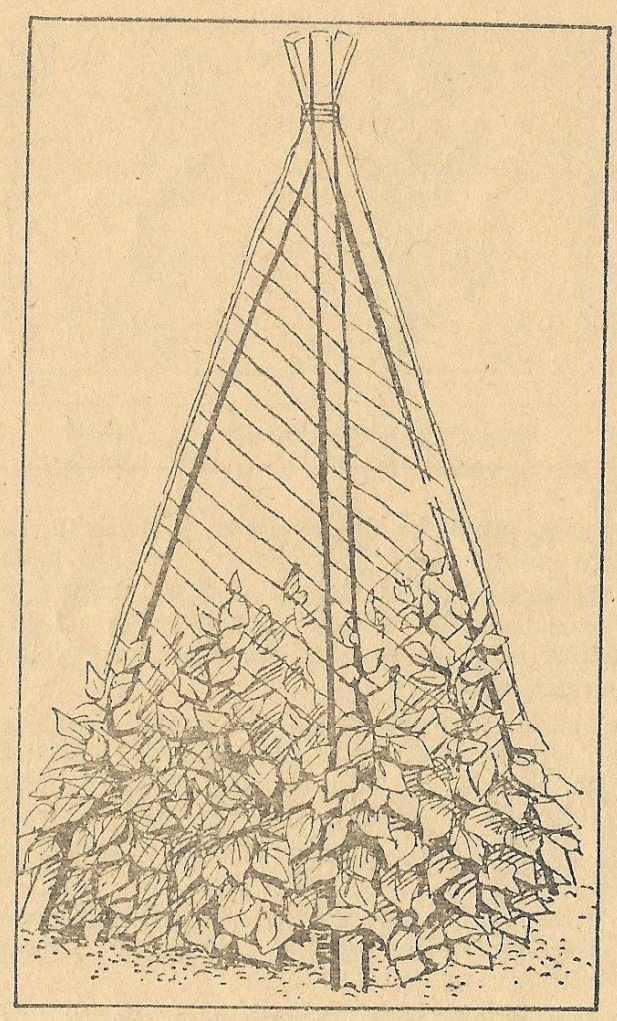
BEANS—CLIMBING

Sow Late September to December

To grow first class climber or runner beans, the soil must be rich and turned over deeply, as the roots go to a great depth in good fertile soil. Climbing beans are far more productive than the bush sorts, and can be grown with just as little trouble. They come into bearing later than the bush varieties, but bear for a longer period and produce bigger pods. They mature in 70 to 90 days. The cultivation and manuring is similar to French Beans, except that during the bearing period a watering with liquid cow manure should be given every fortnight. The beans should be kept picked to encourage productiveness.

When treated as perennials it is an advantage to grow them alongside a fence, outhouse, etc., where they will not be disturbed, and trained to run over them. As annuals one method is to insert stout stakes at least 8 feet long, at intervals of 8 to 10 feet along the rows. Stretch a wire along the top and bottom of the stakes, and then attach stout cord from top to bottom wires for the vines to twine around. Sown in this way, the seed is planted 6 to 8 inches apart, and a cord brought down to each plant. Another method is to place three or four stakes in the ground 3 or 4 feet apart to form a triangle or square, and tie the tops together in the shape of a wigwam. Run twine around to assist the beans to climb.

Epicure is the most favoured home garden variety; it produces heavy crops and is a vigorous grower. Kentucky Wonder and Climbing Stringless are other good varieties. Snake Beans bear long, narrow stringless pods up to 2 feet long, but do better in a warmer climate than Melbourne.



A Good Method of Growing Climbing Beans

Golden Cluster and Kentucky Wonder Wax are good climbing varieties of Butter Beans.

White Monarch and Scarlet Runner are the best of the perennial varieties.

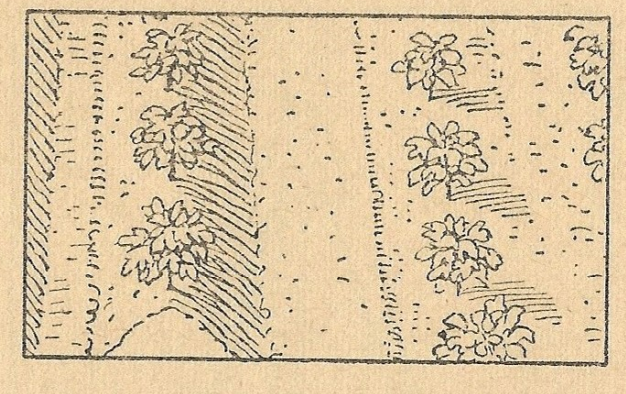
BEANS—BROAD

Sow Late February to June

Broad Beans require a fairly heavy alkaline soil with plenty of humus in order to attain the best results. The bed should be dug over and well limed a fortnight before planting.

They are also more partial to nitrogenous manures than is the case with other classes of beans. The ground should be well worked, and the surface brought to a fairly fine tilth. Drills should be then opened up about 2 feet apart, and the seeds are sown every 6 inches along the drills. They need covering 1 inch deep. If the plants are grown too closely together, they become drawn and weak. This is often the reason why they fail to produce a good crop. If the soil is very dry, it would be advisable to water the drills previous to sowing in order to assist germination.

As soon as the plants attain a height of 6 inches, the earth should be drawn up to them on either side 3 or 4 inches deep. During growth the surface soil should be occasionally stirred with



Broad Beans should be hilled when about 4 to 6 inches high.

the hoe, and weeds must be kept down. If very hot, dry weather sets in before the crop comes to maturity, it is a good plan to mulch the ground between the rows three or four inches deep with stable manure or other material. When this plan is adopted it will often prove the salvation of a late crop, as the evaporation from the soil will be far less than otherwise.

When there is a fair show of blossom the tops of the main shoots should be pinched off to encourage the setting of the flowers already produced, instead of the formation of fresh ones. In order to prolong the supply of beans for as long a period as possible, the pods should be gathered regularly while young, and not allowed to fully mature.

In order to maintain a succession, it will be necessary to sow a new bed every three or four weeks, beginning during late February or March, and continuing until July.

In late autumn aphis may attack the plants. To control them spray with nicotine sulphate. This spray is prepared by mixing 1 oz. of nicotine sulphate with 5 gallons of water (or approximately 2 tablespoons to a kerosene tin full of water), to which has been added a little soft or common soap.

These vegetables can be used in the orthodox manner by removing the beans from the pods when they reach maturity, and boiling them in the customary way; but many people prefer them when they are taken from the plants whilst very young and slicing the pods in the same way as French Beans, in which case they should be boiled with some mint in the water for flavouring, and, when served with butter, pepper and salt to taste, they are quite nice for a change.

Early Long Pod is a good early type and Cole's Dwarf Prolific a good main crop variety.

BEANS—LIMA

Sow October to December

Lima Beans enable the grower to pick beans over an extended period—beans which are not only delicious if cooked when first picked from the plant, but which are also suitable to dry for use as haricot beans, should more than present requirements be grown. The cultivation of Lima Beans is simple.

The ground should be prepared in a similar manner to that adopted for Broad Beans. The seed must not be sown until the soil is warm enough to ensure quick germination. There are two main

classes of Lima Beans—the bush or dwarf variety, and the tall one. They both require more room than other varieties of beans, but they bear so well that a given piece of ground sown with Lima Beans will bear more than if sown with any other kind; besides, if the beans are gathered regularly before ripening, the bearing period will be greatly lengthened.

Sow the seeds of the bush variety in rows 2 feet apart, with 12 inches between seeds, or sow a little thicker, and thin out to that distance. The seed must be sown a good inch deep on average soils. The tall Lima needs more room each way, as it makes a big bush. They bear tremendously.

If to be cooked green, the beans must be picked when three parts grown, shelled and boiled like Broad Beans.

BEET—RED

Sow August to February

Red Beet will grow to the greatest perfection in a light, rich, deep and rather sandy soil, and a cold, wet clay is the least favourable. The soil should be worked to a depth of at least 18 inches. Stable manure is the best of all for beet, but it should be thoroughly decayed, as when fresh or rank it is apt to cause the roots to become forky or diseased, and it should be buried to a depth of at least eight or ten inches below the surface, to induce them to descend straight in search of nourishment, and to check any tendency to forkiness. If artificial manure is used, superphosphate at the rate of 2 oz. a square yard, well forked in, will be ample.

The seed should be sown in drills, 15 inches apart, covering it to a depth of half an inch, and if the ground is dry it will be an advantage to water the drills before sowing the seed, which will germinate more rapidly.

When the young plants are large enough to handle they must be thinned out to about three or four inches apart in the rows, and in about three weeks or a month they should receive their final thinning to 6 inches apart, taking care to leave the best coloured and strongest plants. During growth the ground must be kept free from weeds, and the surface soil between the rows stirred occasionally; but great care should be taken to prevent the roots being cut.

When the plants are half-grown a sprinkling of potash between the rows will be found beneficial.

Several sowings can be made throughout the year. The main thing is to grow quickly and have the bulbs tender. If allowed to get a check in growth the flesh has a tendency to become stringy. Make a small sowing once a month to ensure a continuous supply. Sow some of the Early Turnip or Globe shaped in the early part of February for use during the winter. The long or half-long types require a longer season, being slower in forming their roots.

Egyptian Turnip Rooted, Crimson Globe, and Derwent Globe are good turnip rooted varieties. Obelisk and Long Smooth Blood Red of the longer varieties are recommended.

BEET—SILVER

Sow September to February

To have this vegetable in perfect condition it should be grown in a rich, strong soil, with plenty of liquid manure. The growth then is quick and robust, and produces a large midrib.

The green part of the leaves is cooked like cabbage or spinach, but the broad white mid-rib takes the place of asparagus, but has a different flavour, of course.

Each stalk, as it becomes matured, should be pulled out, and not cut. As the stalks often turn black when cooking, it is advisable to put a few drops of lemon juice into the water in which they are boiled, and it should be served up in the same manner as asparagus.

The soil should be rich and deeply dug, and the seed sown in drills or seedlings transplanted from the seed box.

The rows should be 18 inches to 2 feet apart, with 15 inches between the plants. Keep the top soil well cultivated, and keep down all weed growth. They are gross feeders, and will respond well to liberal applications of liquid manure.

The best varieties for the home garden are Lucullus and Fordhook Giant.

Ornamental Beet is really Silver Beet with coloured leaves, like Red Beet, and may be grown in the flower garden if space is limited. It needs similar treatment to Silver Beet.

BORECOLE

Sow December to February

Borecole, or Kale, is essentially a winter vegetable, for the simple reason that low temperatures (frosts) effect a decided improvement in the quality of the vegetables, as the frost, while leaving the plants unharmed, improves the tops and side sprouts that are required for table purposes.

Deeply worked, strong, rich soil is most suitable for Borecole. Sow the seed in a bed that is well sheltered, and when the plants are vigorous and fit to handle transplant into rows 2 feet apart and 15 inches between plants.

The main operation is keeping the bed free of weeds by regular hoeing. Growth is assisted by occasional dusting of the surface soil with a mixture of 4 parts superphosphate and 1 part sulphate of ammonia. This can be worked into the root area of the plants in the form of a light hilling.

The plants can be kept free of pests with Derris dust.

There is no heart, but the loose leaves are used for cooking in the same way as cabbage. As soon as they are large enough they should be pulled from the bottom of the plant, and then, after the tops are taken, tender young sprouts will grow again.

The first cuttings are usually made about five months after planting out the seedlings, and it will be possible to cut for several weeks.

Dwarf Green Curled is a good variety.

BROCCOLI

Sow November to March

Brocolli are of two types. The heading or cauliflower type is usually sown in the late spring or early summer, and takes about eight months to reach maturity. The sprouting or non-heading type is the most popular, and should be sown from January to March.

The seeds are sown in seed beds or boxes and the seedlings transplanted into rows 18 inches apart, with 15 inches between the plants.

They are, like all the cabbage family, gross feeders, and require a rich, well worked soil. Plenty of well rotted manure should be worked into the bed before planting.

The main operation during growth is keeping the soil well cultivated and free from weeds. An occasional hoeing in of a mixture of 4 parts superphosphate and 1 part sulphate of ammonia, or waterings of liquid cow manure will greatly assist the growth. Frequent applications of Derris dust will keep the caterpillars in check.

The heading type, Late White, will give heads during the spring, when most cauliflowers are finished.

The non-heading type, Yates' Green Sprout, will give a succession of pickings of delicious green caulflower-like buds. The first picking can usually be made about 4 months after planting out the seedlings, and continues for about six weeks.

Perennial Nine Star will give a succession of pickings over a considerably longer period.

BRUSSELS SPROUTS
Sow December to February

This dainty vegetable is a very hardy plant, suited to temperate climates, and a really profitable and useful species. It comes into use in the winter in its true character.

Deeply worked, strong, rich soil is most suitable for this vegetable, and seed should be sown in a well sheltered bed or box. When the plants are big enough to handle transplant into rows about 2 feet apart, keeping the plants at least 15 inches from each other.

Cultivate regularly, and keep free from weeds. An occasional watering with liquid cow manure will greatly assist the growth.

When the sprouts are beginning to form all yellow and ragged leaves should be pulled off the lower part of the stem.

It is important to gather the crop in a systematic manner. The sprouts are perfect when round and close, with not a leaf unfolded. The lower sprouts should always be picked first; the top cabbage, being left untouched till the last, affords protection to the sprouts. When removing the first crop of sprouts, do so with a knife, so as to leave as small a wound as possible.

Kelway's Prolific and Yates' Champion are both good varieties.

CABBAGES
Sow All Year, according to Variety

Cabbages can be successfully grown on almost all soils. In order to grow them to the greatest perfection, both as respects size and quality of heads, it requires deeply worked ground, abundance of the best manure and plenty of moisture; if these are wanting, the heads, instead of being succulent, tender and of delicate flavour, will be tough and coarse.

Seed should be sown in seed beds, preferably in rows about every six or eight weeks to ensure a regular supply. To obtain the best results with cabbage it is essential to sow the right varieties during the different seasons.

The cabbage bed should be dug when the seed is sown, and if there is any doubt about the presence of sufficient quantities of lime a small application should be made.

Before planting, manure the ground thoroughly with animal manure or artificial fertiliser.

Plant in rows, 2 feet apart and 18 inches between plants.

Keep the weeds down by regular hoeing, and when the plants are well established give the soil a dusting of a mixture of four parts of superphosphate and one part sulphate of ammonia. This should be worked into the soil by means of a light hoeing.

As soon as the little heart begins to form, give a watering with liquid manure about once a week.

To check the pests which often infest cabbages, weekly applications of Derris dust are recommended.

The main reason cabbages run to seed is because sowings are made at the wrong time. The cabbage has two natural stages of growth; during the first the heart is normally formed, and the second is when the flowering stalk begins to burst the head as it grows up through it.

The natural formation of the head is brought about by an unchecked period of growth from summer to winter. It is finally checked by the cold winter conditions, and the head consolidates and becomes firm. At this stage it should be cut, as, if not, the warm spring conditions will cause them to run to seed.

Sowings and plantings should, therefore, be arranged according to varieties, and the following are recommended:—

Spring—All Head, Early, Autumn King, Vanguard.

Summer—Succession, Copenhagen Market, Yates' Utility.

Autumn—All Head, Early, Perfection Savoy, Succession.

Winter—Prize Red, All Head Early, Succession, Vanguard.

Savoy or Winter Cabbage has curled leaves, possessing many excellent qualities, beinlg of better flavour and not so rank when grown large. The general cultivation is similar to that of cabbage. This vegetable needs a rich deep soil to produce fine heads, but it will pay better on poor soils than most other kinds of vegetables.

CABBAGE—CHINESE

Sow January to May

This type is not a true cabbage. It can be eaten now in salads or cooked like ordinary cabbage.

The soil should be fairly rich and well dug. The cultivation and manuring is similar to ordinary cabbage.

Sow the seeds in beds and plant out in rows 18 inches apart, with 15 inches between plants.

It is of extremely rapid growth, maturing in about two to three months.

Pe-Tsai and Wong-Bok are the most popular varieties.

CAPSICUMS

Sow September and October

Capsicums are heat lovers, and should be protected against frost.

Seed should be sown in beds or boxes. A hot bed should be used if the seed is sown in the early spring.

When the seedlings are about three or four inches high they should be transplanted into a deeply dug, well drained bed which

has been enriched with a dressing of superphosphate or cow manure. Choose a bed in a sunny position, sheltered from winds.

During growth give them a moderate supply of water, with an occasional watering of liquid sulphate of ammonia or cow manure.

Plant in rows two feet apart, with 15 inches between plants.

Chinese giant and Californian Wonder are good "sweet" varieties for home use, and Long Red Cayenne, a hot variety, for pickles and chutney.

CHOKOS
Plant September and October

They require a warm, sunny position, and have a fairly long growing season, producing practically all their fruit at the same time.

The fruit is a light green, and shaped like a blunt ended cucumber. It is used and cooked in the same way as vegetable marrow.

They are a vine fruit, and should be planted where they can be trained over a fence or outhouse, at least six feet apart.

The soil around where they are planted should be well dug and have plenty of old, well rotted manure incorporated in it, but care should be taken to avoid nitrogenous manures.

The plants will appreciate a dressing of potash during the growing period. Keep the plants well watered through the early growing season and during the hot weather.

After they die down the tuberms can be left in the ground, where they will remain dormant, and shoot again in the spring.

CAULIFLOWERS
Sow December to August

The primary point in growing cauliflowers is to have good, deep and well-worked soil, which must be enriched with plenty of manure. In the case of light and sandy soil, a considerable portion of the manure should consist of stable manure, well rotted. To this may be added bonedust or superphosphate, both of which are largely used by the most successful growers for market.

Sow seed in beds or boxes and transplant into rows 2 feet apart and 18 inches between plants.

Cauliflowers should be planted in as open and moist a part of the garden as possible; where it is not possible to get both open conditions and moisture, the former is preferable, but care must be taken that the plants are well watered.

Keep earthing up the plants to the leaves as they grow. Feed weekly with liquid manure when established.

When the heads are forming a good plan is to break a couple of leaves over the centre of the plant. This protects the heads from frost.

The plants can be kept free of pests with a weekly dusting with Derris dust.

A supply may be kept up by growing early and late varieties. Phenomenal Early, Burpees' Best Early take 3 to 5 months to mature, while Veitch's Autumn Giant, late Metropole, Yates' Maincrop mature in from 5 to 8 months.

CARROTS

Sow August to March

Carrots are a most wholesome and nutritious vegetable. It is an essential crop in the smallest garden, and is in use the whole year. The short horn or stump rooted kinds will succeed in any light, shallow soil, but the long rooted ones prefer a deep, well drained, sandy soil.

Land intended for carrots should be deeply trenched or dug, but no manure should be added just previous to the sowing of the seed. A piece of ground that has been well manured for a previous crop will do well. The ground should be broken down finely for the seed bed, which should be sown in shallow drills about a foot apart. If the soil is poor a sprinkling of superphosphate at the rate of 2 oz. per sq. yard should be given.

The carrot likes a dry seed bed, and the consequence is that the seed germinates better in dry weather than in wet. Often the seedlings appear, but in a few days they have taken on a yellow tint, and then disappear, the foliage of any left curling up, and the plants refusing to grow. This is due to carrot aphis, a pest that is becoming more frequent every year, and is so bad in some gardens that it is impossible to grow carrots, the cause often being accredited to bad seed or other pests. When the carrot aphis has appeared it should be anticipated in after years, and provision made against it by treating the soil before sowing the seed. This can be done by using Cheshunt Compound, and the ground watered with this solution a week or so before sowing. Draw out the drills, and then apply the solution, giving a fair soaking, sufficient to soak the top two or three inches. Dull, moist weather is best, and if the work can be done a month before sowing, so much the better. The seed should not, however, be sown till a week after applying the steriliser.

They should be sown in permanent beds in drills one foot apart and covered to a depth of about ¼ inch. In the summer cover with a light mulch of well-rubbed horse manure.

Do not sow too thickly. There is no advantage to be gained in thick sowing unless the seeds are old or of indifferent quality. Thick sowing means a waste of seed, and a good deal of labour afterwards in thinning. The first thinning should be made when the plants have a few leaves, and thin out to about two inches apart.

Unless very fine roots are needed the second thinning need not be done all at once, but by degrees, using the thinnings for cooking purposes. Thin to four inches apart.

From the time of seed sowing till the foliage has become fairly dense, it will be needful to use the hoe permanently. Hoeing not only kills the weeds, but aerates the soil, and either kills or worries the various pests roaming about the surface of the soil. On no account allow weeds to grow for long, as they rob the soil of plant food and impoverish the young carrots.

Keep the ground moist, but not wet, during growth. Early Short Horn, Manchester Table, Chatenay, Early Nantesand, St. Valery are all excellent varieties.

CRESS

Sow All Year Round

Cress is a quick growing green that will add a piquancy to summer salads and improve sandwiches, keeping them moist and tasty.

Any moist, shady spots in the garden may be utilised to keep up the supply of this and its companion green, Mustard.

Light soil in which has been incorporated some well rotted stable manure or a sprinkling of nitrate of soda is most suitable.

Sow seed thinly in drills about 2 inches apart, and thin out to an inch between plants.

Cress is ready for use in about four weeks, when about two or three inches high, and during this time should be well watered and kept free from weeds.

If space is limited cress may be sown in shallow boxes placed on a verandah or some other sheltered spot.

Three or four feet of row sown every second week will keep up a regular supply of this popular green.

Triple Curled is the most popular variety.

CAPE GOOSEBERRY

Sow September and October

Cape Gooseberries are susceptible to frost, and therefore must be sown very early in spring to allow the fruit to mature before the autumn frosts.

Seed should be sown in seed beds in a warm situation, or in boxes, preferably in a hot bed.

Transplant when all danger of frost is over into a deeply dug, well broken up bed, in which plenty of cow manure or superphosphate has been incorporated. Plant about 2 feet apart, in rows 3 feet apart.

Keep well cultivated and watered. When the fruit commences to set, fork in a light dusting of potash and give occasional applications of liquid cow manure or sulphate of ammonia.

Golden Nugget is an excellent variety for jams and preserves.

Cape Gooseberries take six to seven months to mature.

CELERY

Sow September to December

Celery is very slow growing, and the seed beds should be fairly rich. The seed should be sown in rows and lightly covered. It is slow to germinate, often taking two or three weeks, and must be kept moist.

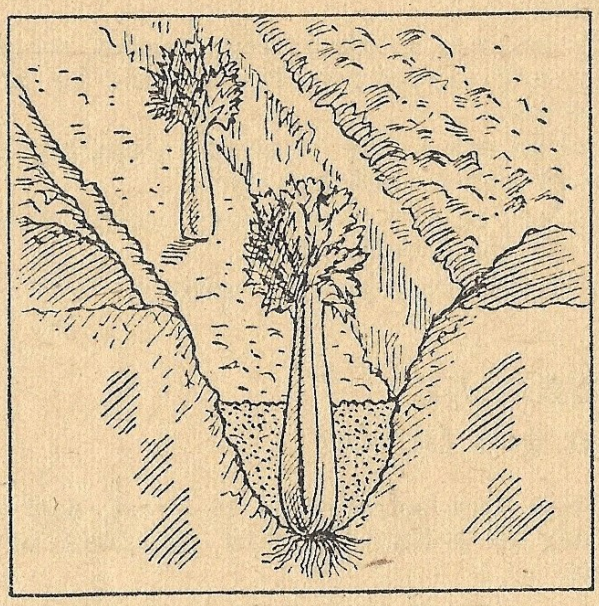
The seedlings should be kept well watered, and when about 2 inches high the tap root should be cut about an inch below the surface with a sharp knife to induce a bigger root growth. When about two months old they should be transplanted into the prepared beds.

It is important to keep them moving, so a deep rich soil is necessary. It is not too much to incorporate a 3 to 6 inch layer of well rotted animal manure in the bed.

For the trench method make a trench about a foot wide and about 9 inches deep. Plant in a double row, triangular fashion, about 6 or 8 inches apart. As the plants grow the earth is drawn back around the plants, taking care not to cover the leaves.

Another method is to grow in rows 2 feet apart, with about 6 inches between plants. When the plants are about 9 inches high, place boards along each side of the row, close to the plants, and keep in place with stakes driven into the soil. As the plants grow increase the height of the boards.

If only a few plants are grown heavy paper may be wrapped around each plant, or jam tins with the top and bottom cut out, and soldered together, used.



The Trench Method of Blanching Celery.

When transplanted into the trench or bed they should be kept well cultivated and weeded. Celery needs plenty of water at all times, and this necessity should be liberally supplied. Apply liquid manure twice weekly, animal and artificial alternately.

Should a plant become infected with Celery Leaf Spot, cut off all affected parts and burn. Then give a good dressing of lime around the plants.

Well grown plants should be ready for blanching in about three months from transplanting and take two or three weeks to blanch. When blanching, tie the top of the leaf stalks loosely together, and take care to keep the soil from the heart of the plant.

Golden Self-blanching, White Plume and Solid White are good home garden varieties.

CUCUMBERS

Sow September to December

Cucumbers do best in a warm, sunny situation, sheltered from the hot north winds. A well drained position is also necessary, as cucumbers will not grow satisfactorily under sour, damp conditions.

A well dug, moderately rich soil is best—too much manure will cause the plants to make too much vine and fail to set the fruit.

Seeds can be sown in groups, triangle shaped, 4 or 5 feet apart, or in rows 4 feet apart, with plants 18 inches to 2 feet apart in the rows. Seeds can be sown ½ inch deep in clusters of two or three, and afterwards thinned out. Firm the ground after planting the seed to assist germination.

Keep the plants growing by regular waterings and hoeings of the surface soil. When the plants begin to run lightly dress the ground with superphosphate 4 parts, potash 1 part, and mulch with grass or lawn clippings or stable manure.

When the runners are 12 to 18 inches long, pinch back some to induce laterals' growth. The fruit formed on the laterals will be later than that on the main runners, and so lengthen the productive period.

When the fruit has set, weekly applications of liquid cow manure will assist to increase the size of the cucumbers.

As soon as the fruit is ready for use it must be removed, whether required or not, as, if left to ripen, the productiveness of the plant is stopped.

The pumpkin beetle often attacks the leaves of cucumbers, but these can be driven off with a liberal dusting of lime. In a wet season mildew is likely to be prevalent, but can be kept in check with periodic dustings of flowers of sulphur.

Cucumbers usually take about three months from planting the seed to maturity of the first fruit.

Early Fortune, Short Green, White Spine are good varieties of the long green types. Apple Shaped and Crystal Apple are heavy croppers and more digestible than the ordinary sorts.

African Horned is a late fruiting variety that, when fully ripe, turns orange. The juicy inside is then eaten with sugar, like a passion fruit.

EGG PLANTS

Sow September and October

Egg Plants require plenty of warmth to mature properly, but do not transplant easily, and if possible should be sown in pots or jam tins during September and kept in a hot bed, or under glass, till all danger of frosts is passed.

They should be grown in rows 2 feet apart, with 18 inches between plants.

Any good rich soil is suitable if in a sunny position, sheltered from the wind.

When the plants are about 6 inches high and well established pinch back the tops to induce branching, and when the fruit sets confine only eight or ten to each bush, allowing one on each shoot.

When the plants are pinched back give a light dressing of superphosphate or stable manure, and lightly hoe in. Keep the soil well cultivated and the weeds down. Water regularly.

Egg Plants take approximately six months to ripen the fruit from the sowing of the seed.

To prepare for the table the fruit is sliced thinly, like a tomato, and covered with salt to absorb the moisture. Dip in batter and fry or bake.

ENDIVE

Sow September-November and February-May

Endive is a useful salad vegetable, providing a change from lettuce, especially during the winter months.

Sow in seed beds or boxes, and transplant into rows a foot apart, with 10 inches between the plants.

During the summer months it is best to sow direct into the beds and thin out to the required distance apart.

Choose a well dug bed and dig in plenty of well rotted animal manure or compost to which has been added a liberal dressing of market garden manure.

Generous quantities of water must be given at all times, and the soil regularly cultivated. In the summer well mulch the ground with well rotted stable manure.

When well established, water once a week with liquid animal manure or nitrate of soda. Never allow Endive to be checked during growth.

Endive takes about three months to mature from seed, but does not fully heart. It has an open "Rosette" formation, and is blanched before use. Blanching, which takes about two weeks, is done from the top. The easiest method is to cover with a flower pot or piece of board laid on the top of the plant. They can also be blanched by tightly closing the rosette by pulling the outside leaves together and tying them with string. They will not stand when blanched, so only a few should be done at a time.

Green Curled and Full Hearted Batavian are good varieties.

GARLIC

Plant April to July

Garlic may be grown in almost any soil, but it does best in rich ground and an open situation. The ground should be well worked, effectively drained, and plenty of well rotted manure may be used with advantage.

Propagation is effected by dividing the clusters of bulbs or cloves, and planting them out singly. They should be planted in rows a foot apart, leaving six inches between the bulbs, and keeping the tops of the bulbs about an inch below the surface.

After planting, little further care is required, except keeping the ground free from weeds and stirring the surface soil with the hoe occasionally.

As soon as the leaves turn yellow and begin to droop it is a sign that the growth has matured, and the bulbs must be taken up and dried gradually, not exposing them to the sun when very hot. When thoroughly dry the decayed leaves must be removed, and the bulbs should be stored away in some cool place that is free from damp till required for use.

GHERKINS

Sow October to December

Gherkins are a variety of cucumber, mostly used for pickling.

The cultivation is the same as for cucumbers, and it takes about the same time for them to mature.

Heinz Pickling and West India are the most popular varieties.

HORSERADISH

Plant June to August

Horseradish is a deep rooted vegetable, and should only be planted in moderately rich deep soil to which no fresh manure has been added.

Plant in rows 18 inches apart, with 12 inches between plants. The best method of planting is to make holes with a dibble and drop the roots into the holes to a depth that the crown will be three inches under the surface. It will then shoot up perfectly straight to the top.

Once established the plant is very hardy and persistent, and, to prevent its spread beyond what is required, it should be treated as an annual and a replanting made every year, destroying the oldest and unwanted roots.

They like a moist situation and require very little cultivation, except to keep the weeds down.

When matured, usually about six months after planting, they may be used as required, or lifted and stored in sand for use when wanted.

HERBS

Sow May to October

Sage, Thyme, Marjoram.

A bed of herbs is essential to every home garden. Four or five plants of each variety is sufficient, and they can either be grown in a bed or as border plants.

Seed may be sown in a seed bed or box, and transplanted when about three inches high, or rooted cuttings or divisions of old plants used.

Select a sunny, well drained position, with not overrich soil, and plant a foot apart each way. When grown on rather poor soil there is a greater proportion of the essential oil than when the soil is too rich.

Most herbs take about five months to reach the flowering stage, at which time they should be gathered. They should be dried in the sunshine as quickly as possible and then stored in well sealed bottles.

Mint.

Mint is propagated by root divisions and requires a cool, damp, sheltered position. Planted near a tap or overflow pipe it will flourish and require very little culture, except to keep it within bounds.

KOHL RABI

Sow January to April

Kohl Rabi is a vegetable that should always find a place in the home garden. Combining as it does the flavour of both the cabbage and turnip, it is one of the most delicious of vegetables. It is also one of the few vegetables with which there is little waste. Both the bulbous stem and tops are used.

Seed may be either sown in seed beds or boxes and transplanted, or sown direct into the beds and thinned out.

Successful results will be obtained from any ground that will produce a good crop of cabbage, but the most suitable is a moderately strong, well worked, deep loam, rich in lime, potash and phosphoric acid.

Plant in rows 15 inches apart, leaving about 9 inches between plants. When transplanting be careful not to injure the long tap root unduly.

Do not allow the soil to become dry; water the plants regularly. Keep the ground well cultivated and the weeds down. When cultivating, be careful to keep the soil from the heart of the plant, and not to cover the bulbous portion. Water with liquid cow manure once a fortnight.

The bulblike stems will be ready for use in from four to five months, and should be taken before fully matured, and when not more than four inches in diameter, as, if allowed to grow too large, they become coarse and inferior.

The tops are used like cabbage. The bulb can be boiled and served with butter or peeled and cut into slices, and boiled till soft when tried with a fork, and then fried in butter till a light golden brown colour.

Large Purple and Early White Short Top are good varieties for the home garden.

LEEK

Sow September-November and February-April

The Leek is a wholesome and nutritious vegetable, and, with a little care and attention, can be easily grown.

The seed should be planted thinly in drills 3 inches apart in the seed beds, and transplanted when about 5 inches high.

The soil should be light, deeply worked, and it cannot be too rich for leeks, as the more rapidly they grow, and the greater size they attain, the better they are in quality. Use well rotted cow or poultry manure or a mixture of equal parts of bonedust and superphosphate.

Plant in shallow trenches 6 to 8 inches deep, spaced about 18 inches apart, with the plants 8 inches apart in the rows. When transplanting, cut back the leaves by about one-third to induce better root growth.

They will require a free supply of moisture while growing, and a little liquid manure once a week.

As the plants make growth a little earth should be drawn around the stems from time to time to blanch them till the trenches are filled up.

If the soil is very shallow or wet, it will be advisable to plant on the surface, instead of in trenches, raising the earth around them in blanching.

Leeks take about five months from the time of planting out the seedlings to reach maturity.

Musselburgh is the most widely grown variety.

LETTUCE

Sow All Year, according to Variety

Many people fail to grow lettuce successfully—the plants often fail to make hearts, and go to seed. This is only to be expected of plants which are allowed to come along at their own sweet will, and which are not chosen with a view to securing the right variety for a particular time of the year; but if reasonable care is taken to thoroughly enrich the soil, and when the weather is dry to see that the plants are kept well watered, there should be no trouble encountered in growing good, crisp lettuce.

Lettuce may be sown in seed beds or boxes during the cooler months and transplanted, but during the hot, dry months it is preferable to sow where they are to grow and avoid transplanting.

Lettuce prefer a medium soil, into which plenty of well rotted animal manure has been dug or other humus to which has been added a liberal dressing of market garden manure. A shady situation will give best results in summer.

The best method is to sow the seed in drills where they are to remain. Drop four or five seeds together every 10 inches along the row and space the rows 15 inches apart. Pull out all the plants but one in each "bunch," and during the cool weather these may be planted in other rows.

Don't sow too many seeds at once. Eight or ten feet of row every fortnight will give sufficient lettuce for the average home and a few over for the neighbours.

Keep the surface soil well loosened in winter, and mulch with well rotted stable manure in summer.

Once the plants are well established regular applications at least once a week of liquid animal manure or either nitrate of soda or sulphate of ammonia should be given to keep them growing rapidly.

Generous quantities of water must be given at all times, especially in summer, otherwise the plants will receive a check and the quality will suffer.

Slowly grown lettuce are usually very bitter; properly grown lettuce should be ready in about ten weeks.

For spring and autumn planting sow Yates' Imperial, Webb's Wonderful and Iceberg.

In summer sow New York or Hanson.

In Winter sow Imperial D or Webb's Wonderful.

MUSTARD

Sow All Year Round

Mustard should be sown in rows where they are to remain and thinned out.

Any moist, shady spots in the garden may be utilised to keep up the supply of this green.

Light soil in which has been incorporated some well rotted stable manure or a sprinkling of nitrate of soda is most suitable.

Sow seed thinly in drills about 2 inches apart and thin out to an inch between the plants.

To have it ready at the same time as cress it should be sown about a week later.

Mustard is ready for use in about three weeks, and during this time should be kept well watered and free from weeds.

If space is limited mustard may be sown in shallow boxes placed on a verandah or some other sheltered spot.

Three or four feet of row sown every second week will be sufficient for a regular supply.

White or Fordhook Fancy are usually grown.

MELONS

Sow September to December

Melons can be grown successfully in any ordinary good garden soil, but they do best in a light, rich loam. They are strong feeders, and plenty of well rotted manure may be used in preparing the ground for them. The soil should also be worked deeply, and thorough drainage must be secured before they can be grown to perfection. Choose a warm, sunny situation if possible.

Seeds can be sown in groups triangle shaped, 7 or 8 feet apart (5 or 6 for rock melons), or in rows 6 feet apart, with the plants 2 feet apart in the rows. Seeds can be sown ½ inch deep in clusters of two or three, and afterwards thinned out. Firm the ground after planting the seed to assist germination.

Before the plants have made much growth the surface soil should be loosened, and a dusting of 4 parts superphosphate, 1 part potash, raked in. Then a mulch of stable manure 4 or 5 inches deep should be spread over the bed.

As soon as they commence to run the branches should be spread over the ground regularly, pegging them down to secure them in their places. The main shoots should be stopped at the fourth or fifth joint above the fruit to promote growth of lateral branches. The laterals should afterwards be stopped one joint above the fruit.

The plants belonging to this family produce both male and female flowers, the latter being easily distinguished by the embryo fruit attached to them. These will not mature unless fertilised by the male flowers, which is generally effected by insects which go from one to the other. When the blossoms are fertilised and the fruit begins to swell, and after a sufficient number have set, according to the vigour of the plants, all flowers, both male and female, should be removed as soon as they make their appearance. When the fruit attains the size of a large hen's egg it will be advisable to place pieces of stone, slate or wood under them to preserve them from being injured through resting on the damp soil.

While the fruit is swelling an abundant supply of water and occasional doses of liquid cow manure is necessary, but when it begins to ripen little or none is required.

Plenty of sun and air is necessary to bring the fruit to perfection, and the leaves and branches will sometimes want thinnning out when too numerous. During very hot, scorching weather, however, it will not do to expose the fruit to the full rays of the sun, as when this is the case it is often spoilt. A handful of long grass, straw or weeds laid over each fruit will generally save it from being scorched. Ripening may be known by the change of colour and smell, as well as the footstalk cracking away from the fruit. The last mentioned indication is the best, as it shows the fruit has arrived at its most perfect state.

Melons usually take about four months to reach maturity, according to variety.

Water Melons.—Early varieties: Fordhook Early, Halbert, Honey and Early Yates. Late varieties: Tom Watson, Kleckley's Sweet, Hawkesbury, Hawkesbury Wilt-resistant, and Klondyke.

Preserving Melons.—Citron and Snow Melon.

Rock Melon.—Rocky Ford, Hale's Best, Early Hackensack and Fordhook. Winter keeping varieties: Honey Dew and Golden Beauty.

ONIONS

Sow February to August, according to Variety

Onions are indispensible, and with proper management a supply of these can be had nearly all the year. Plant a bed of whites early in April. In May put in some Brown Globe. In September plant largely the Brown Spanish and Australian Brown varieties. These, with the addition of spring onions, should keep up a constant supply of this useful vegetable. These remarks apply to plants, not seeds. If you are raising your own plants the seed must be put in at least two months earlier than the dates mentioned.

Good onions are impossible from poor class seeds, despite the best of attention. Sow the right variety at the right time, and buy seed or plants from a reliable source.

To sow seed too early is as bad as sowing too late. Take care always as to the correct kind to grow at the time, otherwise they may run to seed before bulbing.

Sow the seed thinly in a medium rich seed bed in drills about 4 inches apart. When about an inch or two high they should be thinned out to ½ inch apart. Plant out the seedlings into their permanent quarters when about 5 inches high. Shorten back and tops by half when transplanting.

Onions do best in a well prepared, deeply dug medium rich soil containing plenty of humus. Prepare the bed a few weeks before planting to ensure keeping the weeds down. Dig in a good dressing of cow manure or market garden manure when preparing the bed. They are good feeders, and respond well to liberal treatment.

Plant in rows about 15 inches apart with about 8 inches between plants. Never plant onions deeply, as this results in thick-necked, useless things without bulbs. The roots alone should be covered at planting time, leaving the bulbs to form above the surface. If the soil is pressed firmly around the roots it will help to give them a better hold.

When the plants get well established give them a light dressing of potash. Keep them well hoed, weeded and watered until the tops start to dry. When the bulbs start to fill out, an occasional watering with liquid nitrate of soda will help to increase the size.

When the tops are nearly dead, dig and leave on the surface for a few days to mature before storing in a dry place.

Pickling onions are grown by sowing fairly thickly in the bed they are to grow in and thinning out to about 2 inches apart. Southport White Globe, Silverskin and Early Barletta are good pickling varieties.

White Queen, Silver King, Southport White Globe, Hunter River Early White, and Yates' White Imperial Spanish are suitable varieties for sowing in February or March.

Brown Globe, Prizetaker, Hunter River Early Brown, and Odourless are good mid-season varieties.

Brown Spanish, Australian Brown and Prizetaker are best for May or June sowings.

Spring Onions.

For spring onions sow the seed where they are to remain and thin out to a couple of inches apart.

White Lisbon is the best variety for this purpose, and a succession of small sowings from February to May will give a regular supply for the home till the white varieties mature.

POTATOES

Plant August-September and January-Early February

Potatoes are undoubtedly the most popular, and certainly the most valuable, of all the vegetables, easily grown, and producing liberal supplies, if a little attention is bestowed upon the growing crop.

They will grow in almost any soil, but prefer that which is rich in humus and follows very well on a recently dug in green manure crop. Providing the gardener digs deeply, to a depth of 8 or 10 inches, two or three times during the winter, it should be in a fit condition for potato culture by the early spring. New soil where grass or other growth has been dug in is particularly suitable for potatoes. Soil which has become impoverished can be brought to the

desired state by correct digging and adding humus, well rotted manure or compost.

For early potatoes a spot which has a northerly aspect and is slightly shaded from the early morning sun will be found ideal. Badly drained ground should be avoided.

Purchase the seed early and spread it out in a light, airy shed to "green." Seed treated thus produces hard, sturdy shoots, which don't break off so readily as those produced in dark places.

Tubers of two ounces and under are better planted whole; those larger should be cut to about that size, having due regard to retaining as many eyes on each set as deemed necessary. Two good eyes are generally considered sufficient. Do the cutting a few days before planting, and dip the cut part of the tuber into wood ashes, sulphur of lime.

Open up the trenches 5 or 6 inches deep and about 2 feet 6 inches apart. Dust the bottom of the trenches with a mixture of 6 parts of superphosphate to 1 of potash, at the rate of about an ounce to two yards of trench, and mix well with the soil, making sure it does not come in direct contact with the seed potatoes.

Plant the sets about 15 inches apart, then cover over, after first marking the position of the rows with a stick driven in at each end. This permits surface cultivation being carried out without injury to the young shoots which are not yet above ground.

When the tops reach 9 inches or a foot high, they should be slightly hilled up. This protects the tubers, which sometimes form near the surface, from possible injury. Potatoes should be kept weeded and moistened until they have flowered, then the plants should be allowed to dry off naturally. It may be necessary, if rain falls at the period of drying off, to dig the crop to prevent the potatoes starting into a second growth, and thus becoming spoiled.

Potatoes take about four to five months to mature. Regarding the quantity required for the home garden, 14 lbs. of seed potatoes will be sufficient for 100 feet of drill.

For spring sowing use Carman, Early Manistee, Bismarck, Snowflake or Earliest of All. Autumn crops should consist of Early Manistee, Early Carman or Up-to-date.

PARSNIPS

Sow September to February

Parsnips will grow in almost any kind of soil, provided it is deeply dug and the seed sown early, as a long season of growth is required. Like all vegetables of similar growth, a sandy loam is the most preferred, as into this the long, tapering root can strike deeply.

For parsnip culture fresh manure must not be used; in fact it is better to grow the crop on land liberally manured for a previous one. Recent manuring encourages the production of forked and ill-shapen roots.

Parsnip seed is often difficult to germinate, and thick sowings are advisable.

Open up shallow drills in the prepared bed 15 inches apart. Cover the seed lightly with earth and mulch with finely rubbed horse manure.

The first thinnings should be made when the plants have a few leaves, and thin out to about 2 inches apart, leaving the strongest plants. Unless very fine roots are needed the second thinning need not be done all at once, but by degrees, using the thinnnings for cooking purposes. Thin out to 6 inches apart.

From the time of sowing till the foliage becomes fairly dense it will be necessary to use the hoe often. Hoeing not only kills the

weeds, but aerates the soil, and either kills or worries the various pests roaming about the surface of the soil. On no account allow weeds to grow for long, as they rob the soil of the plant food and impoverish the young parsnips. Keep the ground moist, but not wet, during growth. When the plants are half-grown a light dressing of superphosphate is beneficial.

Parsnips are slow growers, and take at least five months to mature. They have a better flavour after the early frosts, and are then tender and tasty.

Hollow Crown is the best variety.

PARSLEY

Sow September-October and February-March

Parsley is a herb in constant use, and, being ornamental, can be used as edging to the borders. Any well dug soil will suit parsley and the seed can be sown about ½ inch deep and about 9 inches from the edge of the path or border. When large enough to handle, thin the seedlings out to 4 inches apart in the rows.

A sowing can be made in September and another in March, thus ensuring a plentiful supply all the year round. The seed is often slow in germinating, but a few radish seed mixed with the parsley will mark where the rows are, and the dutch hoe can be used freely to keep down the weeds.

An occasional application of liquid manure—cow or sulphate of ammonia—will help to keep it growing freely.

Do not strip a plant of all its leaves at once, but remove one or two here and there, and keep all flower stems removed as they form. As each sowing comes into bearing remove the old plants; if left it only exhausts the soil.

Generally three months should pass before the foliage is picked. This enables the plant to build up. Keep parsley well supplied with water during dry weather. Triple Curled is a most reliable variety for general purposes.

Parsley can be easily dried for winter use. Pull or cut the parsley when full grown, hang it in the sun to dry, and store until required for use. It will resume its colour and flavour when put in the pot even if kept for years.

PUMPKINS

Sow September to December

The cultivation of pumpkins is so simple in our climate that this class of vegetable is often regarded as the lazy man's crop; but, although in a favourable season satisfactory returns are obtainable even from neglected plants, it is well worth the grower's while to pay some attention to the preparation of the ground, and especially is this the case where the ground is poor.

Most gardeners have noticed how robust are the self-grown plants that spring up on the rubbish heap adjacent to the garden plot, as compared to those from seed which may have happened to lodge on the plot itself. By imitating in a measure the features of the rubbish heap, and by incorporating a quantity of organic manure with the patches of soil in which seed of pumpkins and such like crops are sown, we provide the rich water retentive humus content which characterises the refuse heap, and upon which the welfare of the vegetable under discussion—of marked thirsty disposition—so much depends.

Robust growth is not, however, always an omen of a heavy crop, for it frequently happens where such growth occurs the plant shows no desire to set fruit. This condition is usually brought about by the overuse of the decomposing material, the effect of which is to convert the soil surrounding the plant into a miniature hot bed. The supply of organic material must be properly regulated by incorporating it thoroughly with the soil; the growth of foliage then will not be excessive, and the plant will fruit satisfactorily. Of the organic manures suitable, old dry cow manure is perhaps the best. Horse manure, being lighter in texture, decomposes more quickly, and is inclined to produce heated conditions.

Pumpkins are great runners, and should be planted where they can be kept within bounds and trained to run over fences, outhouses, rubbish heaps or other out-of-the-way places. They should be planted in "hills" about 8 feet apart.

Before planting the seed mark out at the proper distance the points at which it is to be set, and dig out at each point a hole about one foot deep and two feet in diameter. Into each hole tip a bucketful of manure, and mix it well with some of the surface earth and a handful of superphosphate. If the soil is at all dry, water the prepared spot thoroughly some hours before sowing. The seed should be sown in sets of five, at a depth of about an inch, and a light mulch of peatmoss or other suitable material should finally be spread over the surface to a depth of an inch. The young plants should be up in about a week, and should then be carefully watched and protected from attack by the pumpkin beetle. When well established they should be thinned to the strongest two. The after-cultivation consists of hoeing the soil occasionally and keeping down the weed growth until the plants cover the ground.

If the vines run luxuriantly it is often necessary to thin out the laterals that have no fruit on them. They take from four to six months to mature.

Queensland Blue, Triamble, Yates' Selected Crown, and Turk's Cap are all excellent varieties.

PEAS

Sow July to March

Peas favour cool conditions, without heavy frosts or excessive heat. Frosts do not harm the vine growth of the peas, but prevent the setting of the flowers. A crop which meets with frost during the flowering may shed its blooms, but continue to grow, to bloom again, and set a crop later.

A well cultivated soil, deeply dug, such as has been used for cabbages, etc., will be fine for peas, which, however, are partial to a liberal dressing of lime. It is not wise to use an overabundance of nitrogenous manures, but poor soils can have the addition of a little well rotted stable manure, more as a means of supplying humus than as a plant food.

Peas are particularly valuable in breaking down new soils and rendering them more suitable for a subsequent crop of a different nature as well as imparting a useful quantity of nitrogen to the soil.

If it is possible to provide wire netting or criss-crossed sticks on which the peas can climb, the home gardener should not hesitate to use them. A pea crop on supports, given the same conditions, gives 50 per cent. heavier yield than one allowed to struggle unsupported. Rough brushwood, two or three feet high, will answer the same purpose. Where this method is used, make the rows two feet apart, and for preference run them north and south, so that the sun will reach the rows evenly.

Where supports are not used the peas can be sown in double rows 6 inches apart, with 2 feet 6 inches between each pair of rows. This enables one line of peas to support the other.

Sow peas about an inch deep, and before sowing the seed may be soaked for three or four hours to assist germination, or a better way is to water the drills after dropping the seed in, before covering. If troubled with wire worms or birds, it is a good plan to dip the seed in kerosene before planting.

When the plants are about an inch or two high, thin out to about 4 inches between each plant.

As the plants grow, the soil surface should be frequently stirred and loosened. When sufficiently tall they can be hilled up on either side. It is very necessary to keep the young crop free from weeds.

As soon as the peas commence to flower, give a dressing of 2 parts superphosphate and 1 part potash, at the rate of an ounce to the square yard. When the pods commence to fill out, water lightly with liquid nitrate of soda every couple of weeks.

Picking should commence immediately the first pods are ready, and should be continued frequently to ensure a long cropping period.

To ensure a succession sow every three weeks.

Greenfeast, Yates' Earlicrop and English Wonder are good mid-season varieties; Stratagem and the tall growing Telephone are the best winter varieties, while Yorkshire Hero is a good summer variety.

Peas usually take three or four months to mature.

Edible Podded or Sugar Peas.

They are grown and cultivated in the same manner as the ordinary garden peas and are cooked in the young state in the same manner as French beans, and make a delicious vegetable. They can either be cooked whole or cut into slices, and have a delicate flavour. They do not require shelling unless very old.

Sown in June or July, they will be ready for use in September or October, much earlier than French beans.

RADISHES

Sow All Year Round

Crisp, tender radishes are only obtained through quickgrowing in suitable soil. It is worth while going to some trouble in thoroughly breaking up the ground and incorporating plenty of humus. Plenty of well rotted manure should be dug in or a good dressing of superphosphate given when preparing the bed.

The seed germinates freely and quickly. During the winter a sunny position should be chosen, and in the summer a shady spot should receive preference.

Sow the seed where they are to remain, in rows 9 inches apart. Particular care should be exercised in weeding and thinning out to allow ample room for bulbing. Thin out to 2 or 3 inches apart, according to variety.

They take four to six weeks to reach maturity, and small sowings should be made every fortnight for a succession of these roots.

The most important thing to remember in radish culture is that they do not dry out or receive a check in their growth.

Long Scarlet is an old favourite, while French Breakfast is better for shallow soils. White Icicle is a better keeper, and grows larger.

As they mature so quickly, sowings may be made between the rows of other crops if space is limited.

RHUBARB
Plant April to July

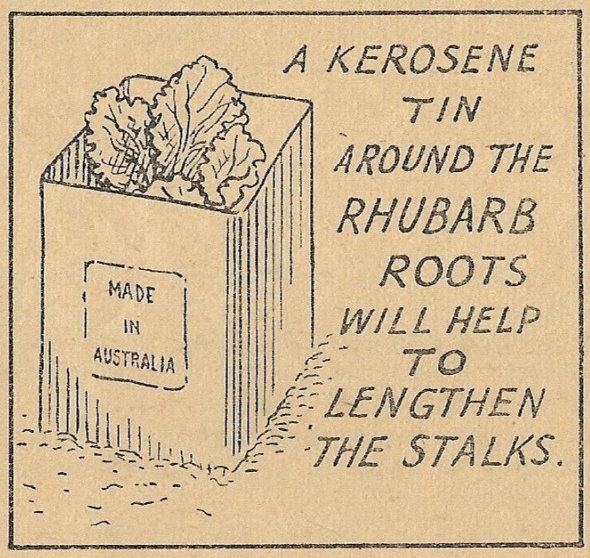
Although rhubarb may be raised from seed, four or five plants will be sufficient to supply the average household, and therefor it will be better to purchase the roots.

Rhubarb is a very exhausting plant, and requires plenty of manure. The ground should be trenched to a depth of two or three feet, according to the depth of the subsoil, and it may be taken as a rule that the more manure there is mixed throughout the soil the heavier will be the crop, as hardly any additions can be made during the existence of the crop, and the larger and thicker the stalks the more valuable they are.

The plants should be put in about four feet apart, and see that the crowns are left a little above the soil when planted; otherwise they may be found to have sunk too deep when the soil has settled down, as the plants succeed best when the crowns are a little above the surface.

When growth has commenced, if the weather proves dry, plenty of water should be applied to the bed. If you desire the stalks of extra size, feed liberally with liquid cow manure. An occasional application of sulphate of iron will give a good colour.

Keep the leaves picked from the outside. Do not allow them to get too old, as they become spongy and unfit for use. When removing the stalks they should be torn right off from the base, and not broken off in such a way as to leave short stumps behind. The leaves should not be allowed to die on the plant, as they will rob it of vitality. If flower stems appear they should be broken off as soon as detected, as it is desirable to throw the whole of the strength of the plant into the leaf; if allowed to flower they soon deteriorate.



A kerosene tin with the top and bottom cut out, placed around the plant, will assist to lengthen the stems.

Sydney Winter gives larger crops in winter, but Wilson's Ruby or Kech's Giant Ruby give larger stalks.

SPINACH
Sow February-April and August-October

Spinach thrive best in a rich soil; they must be encouraged to produce leaves fit for use as rapidly as possible in order to have them tender. To induce this rapidity of growth three conditions are

essential, viz., rich soil, warmth and moisture. As these conditions are most assured in early autumn and late spring, it is in these seasons that spinach can be most successfully grown.

The soil for a bed of spinach should be thoroughly cultivated, and at the same time a good dressing of stable manure should be applied. The bed should then be made fine on the surface and the seed sown in either drills 15 inches apart and ½ inch deep, or broadcast. A mulch is applied to keep the soil moist during germination. Thin out the plants to 8 inches apart, when large enough to handle.

Keep well hoed and weeded, and apply a little liquid nitrate of soda as a stimulant every fortnight.

Spinach will not stand long before running to seed, and needs planting every three weeks to keep up a regular supply. As they mature quickly, in about 8 weeks, they may be sown between the rows of of slow maturing crops.

Prickly Seeded is used mainly for autumn sowing, and the Round Seeded for the spring sowing.

SPINACH—NEW ZEALAND

Sow September to February

The plant known as New Zealand Spinach is grown as a summer spinach. This is not a true spinach. It is, however, quite well thought of by many home gardeners. The plant is bushlike or sprawling. The seeds are extremely large and hard, and slow germinating, but after the plant once starts to grow it will cover much ground.

Any ordinary fairly rich soil is suitable. The rows should be at least 3 feet apart, and the plants 1 foot apart in the rows. The tips of the branches with four or five leaves are the parts cut off and consumed. The more cuttings made the more branches and tips will result.

They should be cultivated while young and the weeds kept down always. An occasional application of liquid animal manure or sulphate of ammonia will assist in keeping the growth fairly rapid. Water regularly in hot weather.

SALSIFY

Sow August-October and February-March

Those who are fond of oysters will find a similar flavour in salsify, which has been called the "Oyster Plant" as a consequence.

It is regarded as valuable for the flavouring of soups, to which it adds a decided oyster flavour. It is also boiled and served in the same manner as parsnip, with the addition of some melted butter.

The seeds for the first crop should be sown in August, and a later sowing can be made in October, and then in the autumn of the year, say, about the end of February, still another sowing can be made for plants to be used during the winter months.

Like the parsnip, it requires a deep loam, and does well in ground that has been generously manured for a previous crop. No fresh manure should be used in its cultivation.

The seeds should be sown thinly in shallow drills, the latter being about 12 inches apart, to permit working the surface soil between the rows. Should the seedlings come up too thickly, remove sufficient to allow those that remain to have six inches of space between the plants.

Keep the young plants growing steadily, and if the soil is not sufficiently rich to keep them always on the move, take advantage of showery weather to work in a little bonedust between the rows. Frequent cultivation when the soil is in good order for working does much to assure well-grown roots.

SHALLOTS

Plant April to August

Shallots should be grown in light, rich soil not recently manured. Plant in rows about 12 inches apart, with 6 inches between bulbs.

Shallots will produce good size greens several weeks ahead of onions raised from seed. They are particularly free from insect pests. A dressing of superphosphate or a mulching of stable manure will greatly increase the size of the crop.

When ready for use individual cloves should be pulled from the bunches, and not the entire bunch pulled out. In this manner successive growth is obtained and the supply maintained for many months.

Potato Onions and Tree Onions are both mild in flavour, and should receive similar treatment to shallots.

SQUASH

Sow September to December

Squash require similar soil and treatment to pumpkins. They require a rich soil with plenty of humus in it. They should be planted in hills about 6 feet apart for running varieties.

Before planting the seed mark out the positions of the hills and dig a hole about a foot deep and two feet in diameter. Into each hole tip a bucketful of stable manure and mix it well with some of the surface earth and a handful of superphosphate. If the soil is dry water well before sowing the seed.

About five seeds should be sown in each hill at a depth of about an inch. A mulch of stable manure will assist to keep the moisture in. When well established they should be thinned out to the strongest two.

The after cultivation consists of hoeing the soil occasionally, and keeping down the weed growth until the plants cover the ground. When the fruit has set an occasional watering of liquid animal manure will help to increase the size.

The bush types do not take up so much room, and are better for the small garden, and can be spaced about three feet apart.

Green Hubbard and Golden Hubbard are winter squashes of the running type, and good keepers, somewhat similar to dry pumpkin.

Early White Bush and Golden Bush are summer types and very quick maturing—about 10 weeks—but are not good keepers.

SWEET CORN

Sow September to January

Sweet Corn is a highly nutritive vegetable that is rapidly becoming more popular in this country.

The soil for growing sweet corn should be fairly deeply worked and well manured with cow manure or superphosphate and a little potash.

They should be sown in drills where the plants are to grow, 2 feet to 2 feet 6 inches apart. Drop three or four seeds every 6 to 9 inches apart, and cover to a depth of about 1½ inches.

When the seeds germinate and become established, thin out and leave the strongest of each bunch.

Corn makes an excellent breakwind sown between beds or around the garden. To ensure perfectly filled ears several rows should be grown together, so that fertilisation will be complete.

The soil should be kept well cultivated and the weeds kept down. When the plants are about 12 inches high they should be hilled up. The hilling up should not be overdone, however, as the greater the hill the more evaporation takes place. Keep well watered and give occasional waterings with liquid cow manure or nitrate of soda, especially when the plants commence to cob. A light dressing of potash raked in then is very beneficial.

The cobs should be picked just as the tassels commence to wither. They are then the best for cooking. They take about 2½ to 3 months to mature from sowing the seed, and each plant will bear from one to three cobs.

The popular method of cooking is to plunge the cobs into boiling water and allow them to boil until soft. Served with melted butter they are delectable. They may be also roasted or baked.

Golden Bantam, Country Gentleman, and Burpee are good varieties for the home garden.

For a succession sow two or three six-foot rows every three weeks.

TURNIPS

Sow August to March

Turnips are easily grown, but they must be grown quickly or they taste bitter, and become tough and stringy. The soil should be rich, but must not contain any new animal manure. When a little extra manure is needed use a mixture of equal parts of bonedust and superphosphate at the rate of one or two ounces to the square yard. The most suitable soil is that which has previously grown a crop of cabbages, tomatoes, peas, etc.

Sow the seed in shallow drills about a foot apart and cover with fine soil. In the hot weather apply a mulch of fine stable manure.

Thin out the seedlings as soon as they are well above ground, leaving a space of about six inches between the white varieties and about nine inches between Swedes.

Particular care should be exercised in regular weeding, hoeing and watering, so that the roots do not receive any check. Occasional waterings with liquid animal manure after the bulbs have started to swell will increase the size.

They should be pulled when young. If allowed to remain in the ground after reaching maturity they are inclined to become spongy.

The White varieties mature in about two months, while the Swedes take about a month longer.

Ten feet of row planted once a month will keep the average household supplied.

White Stone, Purple Top Globe, Flat Express are good white varieties, while Orange Jelly is a yellow fleshed white.

Laing's Garden Swede and Champion Purple Top are the best of the Swedes for the home garden.

TOMATOES

Sow August to December

Tomatoes germinate readily from seed, but are heat-loving plants and require raising under glass or in a hot bed for early planting out. A dozen or so plants will supply the average family with all the tomatoes required, and it is hardly worth while to raise your own seedlings.

When buying seedlings make sure and get plants that have been hardened off.

A deep, rich loam is the best soil for tomatoes; add plenty of well rotted cow manure and humus.

If using artificial fertiliser a mixture of 6 parts superphosphate, 4 parts of blood and bone, and 1 part potash will be found satisfactory. Fertilisers should be thoroughly mixed with the soil or placed beneath the plants in such a manner that they will not come in contact with the roots.

Tomatoes should be sown in rows 2 feet 6 inches apart, with 2 feet between the plants.

When planting out early tomatoes, throw up ridges running east and west, and plant the young seedlings on the north side of the ridge. This does two things: it assures a certain freedom from cold winds, and also gives a reflected heat from the sloping sides of the ridge. The young plants are also assured good drainage, because surplus moisture runs down into the hollows, and it will be found that tomatoes planted under these conditions progress much quicker than when planted on the flat surface of the bed. Further protection from the frosts can be given by driving in wide pieces of board on the south side of the plants, each board being in a slanting position that protects the young plants from frost, yet allows full sunlight to reach it. In very low places a still further protection can be taken by placing bagging on the boards at night time in such a manner that no frost can reach the plants. The bags can be removed during the day and replaced at night until all danger of frosts is over.

Later plantings may be made on the flat. A cool, moist day should be chosen for the planting. Each plant should be watered as soon as planted. During very hot weather, and where difficulty might be experienced in keeping the plants alive, they can be puddled into the ground. This means making the holes first and filling them with water, and allowing it to soak away before filling again and the plants put in.

The Correct Method of Pruning Tomatoes.

The after-treatment of the crop consists of keeping the plants tied to stakes and keeping all laterals pruned. Fruit will be produced on the main stems, but from every leaf joint the plants will endeavour to produce side shoots. These should be pinched out as soon as they appear, confining the entire growth in the earlier stages to two or three main shoots.

The soil surface should be kept well stirred, but care should be taken not to cultivate too deep or close to the stem. Keep the hoe at least six inches away. If possible, during the hot weather mulch the ground thoroughly. Keep the ground moist without watering the foliage too much. Many of the fungous diseases to which tomatoes are subject can be avoided or minimised by fortnightly spraying with Bordeaux Mixture. Any plants becoming infected with wilt should be pulled up and burnt.

Tomatoes take approximately 3 to 4 months, according to the variety grown, to produce the first of its crop.

A dozen plants put in early in September or October, two dozen about November, with a further dozen in the latter part of December, will give a regular supply for the table and cooking.

Helvetia are early maturing variety. Bonny Best, Livingstone's Manifold and Marglobe mature a little later.

Burwood Prize, Matchless and Livingstone's Globe are later-maturing varieties.

Golden Queen is perhaps the best of the golden-fruited varieties. King Humbert is the best of the small pear-shaped tomatoes.

VEGETABLE MARROWS

Sow September to December

Marrows are very easily grown, and for the home gardener with limited space there is the bush variety of marrow, which, when properly treated, will yield quite a lot of fruit. They are gross feeders, and will respond well to a liberal supply of manure and plenty of water. With the bush varieties the hills can be spaced 3 feet apart, but the running varieties will have to be given twice this distance.

Before planting the seed mark out the positions of the hills, and dig a hole a foot deep and two feet in diameter. Into each hole tip a bucketful of stable manure, and mix it well with some of the surface soil and a handful of superphosphate. If the soil is dry, water well before sowing the seed.

About five seeds should be planted in each hill at a depth of about an inch. A mulch of stable manure will help to keep the moisture in. When well established they should be thinned out to the strongest two.

The bush types may be sown in rows 3 feet apart, with 15 inches between each plant.

The after-cultivation consists of hoeing the soil occasionally and keeping the weed growth down until the plants cover the ground. When the young marrows have set an occasional watering of liquid animal manure will help to increase the size. A good method of applying the liquid manure to them is to sink a jam tin, which has had a nail hole punched in the bottom, alongside the plant, and when the time arrives to apply the liquid manure simply fill the tin.

Long White Bush, Long Green Bush, Long Cream Running, and Long Green Running are the most popular varieties.

Vegetable Pests and Diseases

Chewing Insects

Chewing insects, such as caterpillars, grubs, pumpkin beetles, slugs, snails, etc., live by feeding on leaves, flowers and fruit, portions of which are chewed and passed through the digestive organs. By spreading a coating of poison over the whole of the plant the insect, which feeds on the foliage, has no alternative but to absorb some of this material, which immediately destroys it. Regular sprayings are necessary to ensure that the new untreated growth receives its covering of spray.

CATERPILLARS

There are many different varieties of these pests. Most of them can be killed with poison sprays or other compounds. The following methods are those most generally used:—**Arsenate of lead,** usually used at a strength of 1 oz. to 3 gallons of water and sprayed on. **Derris dust** or **derris spray** are very effective, and because they are non-poisonous are much safer to use.

PUMPKIN BEETLES

Besides attacking pumpkins they may be found on any similar type of plants. Where only a few are apparent they can be syringed with water and caught by hand. The following methods of keeping them in check are usually used:—

1. Driving them away with generous dusting of lime.
2. Dusting with derris dust.
3. Spraying with arsenate of lead.

Arsenate of lead is probably the most effective, as these pests are not easily killed and an effective poison is usually necessary. Dusting is best done early in the morning while the dew is still on the plants.

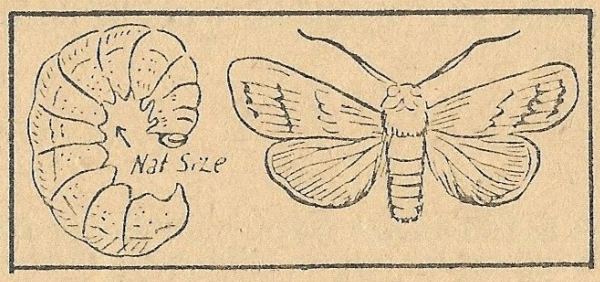
In appearance the pumpkin beetle is very similar to the ladybird. Their bodies, which are yellow with black spots, are oval, whereas those of the ladybird are inclined to be round. These two insects should never be confused, because ladybirds live by preying on other insects and are really friends to the gardener.

GRASSHOPPERS

It is usually necessary to use a poisonous bait for these pests, and, naturally, must be handled carefully. One ounce of arsenate of lead or paris green is mixed with 1 lb. of bran, and enough treacle to make a stiff paste. This should be rolled into lumps about the size of a walnut and placed about the garden. The baits are dangerous to children and pets, and should be covered with wire netting if there is any possibility of them being picked up.

CUT WORMS

They are extremely destructive and can cause quite a lot of damage in one night. They are brown or grey in colour, about one inch long, and have tough leathery skin. Plants attacked are cut off at ground level, and the remains of the plant can usually be seen lying on the ground. Generally the cut worm endeavours to take some of the leaf back into the ground, and portion of it will be seen protruding through the surface of the soil if inspections are made early in the morning.



Cut Worm and Moth.

By carefully raking around they can often be located and destroyed. The most satisfactory method of control is the poison bran bait. One ounce of paris green to ½ lb. bran and 1 oz. of treacle, sufficient water is added to make a crumbly mash, and the bait is rolled up into small pellets and placed close to the plants. One tablespoonful of calcium arsenate and 1 lb. of bran mixed with half a pint of water into which two tablespoonfuls of sugar have been dissolved is also effective.

WOODLICE OR SLATERS

They do considerable damage in a garden, and as they mostly appear at night the damage is not always apparent. Young seedlings, tender shoots and surface roots of plants are all attacked. They are slate coloured, have a shelly back and many legs. An average specimen is about 3-8 in. in length. They congregate in damp places under decayed wood, leaves or bags. Perhaps the most simple home remedy is to trap them by cutting potatoes or turnips in halves and slightly hollowing out the centres. The cut surface is laid face down towards the ground. They should be inspected every morning and the slaters destroyed. The poison bran bait mentioned before is very effective.

SNAILS AND SLUGS

These are not such a problem as formerly. The advent of Metabait has been a boon to the home gardener. It is not affected by rain, but should be renewed every week to be most effective. The poison bran baits mentioned for cut worms are also very good.

VEGETABLE WEEVILS

Both the adult weevil and the caterpillars of this insect attack turnips, carrots and parsnips, the caterpillars particularly travelling in the soil and tunnelling into the underground portion of the crop. To control this insect, the plants should be sprayed with arsenate of lead, or else poison baits put out as described previously.

Sap Sucking Insects

Practically all sap sucking insects drain sap from the young shoots and leaves by means of a beak, which they insert into the foliage or stem. They cannot be poisoned through the digestive organs, as they do not eat the foliage, but are killed either by poisoning by contact with the body or by closing the pores and breathing organs with contact sprays. These cover the insects with a film of spray. It can, therefore, be readily understood that a thorough spraying is essential for 100 per cent. kill. Sprayings must be repeated as often as live insects appear.

APHIDS

These are soft bodied insects which suck the sap from green shoots as well as the young tender leaves. The most common are the black aphis and the green aphis. Their rapidity of increase is amazing, the aphis reaching maturity and reproducing in a few days.

Spraying with nicotine sulphate, ¾ oz. to 4 gallons of water, is the most effective. The addition of 3 or 4 oz. of common soap to the nicotine spray will greatly increase its adhesive properties.

HARLEQUIN BUGS

Harlequin bugs are frequently found on vegetables, and rhubarb is particularly subject to attack. Clean cultivation and the eradication of such weeds as marshmallow are most important. Such sprays as Benzol emulsion and Clensel, used at the strength recommended by the makers, are good preventative measures of control. Boiling water is a cheap and effective remedy for clearing them from weeds and fences.

PEA MITE

This pest is now very widespread in its distribution, and, fortunately, is not such a serious pest in the summer months as it is during the autumn and winter. However, early plants of carrots, lettuce, red and silver beet, radishes, etc., may be attacked.

The main essential in the control of this pest is to plant out seed or seedlings on land which has been kept clean from weeds and rubbish, and also to ensure that, during the growing period of those plants the ground is kept well worked and free of weeds. The mites cannot live for any length of time on clean cultivation, but will migrate to it fairly quickly from neighbouring dirty plots. Any plot freed from the mites by cultivation may be kept free by placing a trail of creosote about four inches wide around the plot. The mites will not be able to cross this trail for a period of several weeks. The following preparations have been found to be successful against the pea mite within the creosote trail:—Broadcast at the rate of 2 oz. to the square yard over the affected area a mixture of one part of carbolic powder (15 per cent.), and three parts of lime, super or gypsum. Tobacco dust and lime in equal proportions used in the same manner is also effective. For spraying purposes nicotine sulphate, 1 oz. to 5 gallons of soapy water, is most suitable.

RED SPIDER

During the summer months, and particularly in a dry season, red spider is very commonly found attacking french beans. They are to be found sucking the sap from the under surface of the leaves, which turn flabby and pale in colour. Control of this pest is best accomplished by keeping bean plants well watered during the summer, as on such plants red spider is rarely troublesome. When red spider is prevalent, affected plants should be sprayed with nicotine sulphate, 1 oz. to 5 gallons of soapy water.

Virus Diseases

There are a number of virus diseases, such as bronze wilt, mosaic, etc., but so far no effective method of restoring attacked plants to health has been discovered.

The main precautions to be taken are to avoid a repetition of a crop in the same ground when it has been suspected that a virus disease was present, and to immediately remove all affected plants from the bed as soon as detected and burn them. Generally speaking, virus diseases are not quick spreading and the pulling out and burning of the affected plants will prevent the spread of the disease. The presence of virus disease is usually indicated either by the mottling of the foliage, which shows light and dark green patches, or by the dwarfing and wrinkling of the leaves.

Fungous Diseases

These are caused by harmful fungi which attack the plant either through the root system or directly on to the leaves and stems, where they often invade the plants through wounds and abrasions. The most common are mildew, blight, fusarium wilt, etc.

MILDEW

The most susceptible vegetables to this disease are vine crops, such as cucumbers, squashes, melons, etc., and tomatoes.

Giving the ground a good dressing of lime during the winter will go a long way towards controlling and preventing this disease. Even lime dusted on to the plants, while not a satisfactory cure, will help to prevent it. The usual methods of control are by dusting or spraying a sulphur material, such as lime and sulphur, flowers of sulphur, or colloidal sulphur. These should be used as recommended by the manufacturer as they are often used at different strengths for summer and winter use.

IRISH BLIGHT

This disease mostly attacks potato or tomato crops. It is a parasitic fungus which develops rapidly during a period of moist weather, but is often checked by warm dry spells. The symptoms are usually in the form of brown or black smudges on the edges of the leaves, and

as the fungus develops, the foliage blackens and wilts. Spraying with Bondeaux mixture is recommended as soon as the first signs of the disease appear.

Prevention is assisted by not growing potato or tomato crops in the same ground for more than two consecutive seasons.

EARLY BLIGHT

This also attacks tomatoes, potatoes and egg plants, and appears in the shape of dark brown circular spots on the foliage, but, unlike Irish blight, it seldom effects tubers. The control measures are the same as for Irish blight. All weeds should be eradicated and the plants sprayed with Bordeaux mixture.

FUSARIUM WILT

This is another tomato and potato disease. The affected parts show a brownish discoloration in the tissues, which can be exposed by cutting through the stem or root. Not a great deal can be done to control it except to sterilise the seed beds and burn infected plants. There are now quite a number of tomatoes which have been bred to withstand this disease. Crop rotation is advised if the disease is suspected of being present.

BLACK SPOT ON TOMATOES

This is caused by irregularities in the moisture requirements of the plant. During very hot weather the roots may be unable to supply the moisture at the rate the plant requires it, even though there is sufficient moisture in the soil. The plant will withdraw the deficiency from the fruit, causing a collapse of the cells at the blossom end. After the tissues have collapsed they may be infected with fungi or bacteria. Pruning the plants will help to prevent its occurrence.

Hints

A good indelible ink for metal labels can easily be made by dissolving two well-heaped-up tablespoonfuls of bluestone (sulphate of copper) in a pint of writing ink. Well cork, shake well before and during use.

A good point to remember when gauging the measure of minerals like bluestone, etc., is that as much as can be accommodated on a penny piece is equal to one-half ounce. Try and remember this, as it is a safe and economical method of using such materials.

A small handful of artificial fertiliser is equal to 2 oz. or sufficient for one square yard.

An old silk stocking made into the form of a bag, partially filled, and then shaken over the plants, is an excellent means of applying such powders as Derris Dust and Ramtree Dust.

Preserving and Drying Vegetables

VEGETABLE BOTTLING

Most vegetables are lacking in acid, and are thus readily attacked by bacteria, consequently they require a different treatment from fruits. They should be preserved by pressure cooking or intermittent sterilisation.

Prepare vegetables as for cooking, scrub, peel and cut as required. Blanch by dipping in boiling water for from 5 to 15 minutes; peas and beans 5 minutes, root vegetables 15 minutes; leafy vegetables may be steamed for 10-15 minutes. After blanching dip into cold water, drain and pack into jars. Fill jars with brine (1 quart water, 1 oz. salt, boiled together, then cooled). Place ring and lid tightly on; for vacuum jars overflow with brine and seal down.

Place jars on a stand in a steriliser, and pour in cold water to come up to about 2 inches from the top of the jars. Bring water gently to the boil, and boil for one hour. Overflow jars with boiling brine, put on rubber rings and seal. Vacuum jars are simply lifted out.

The jars are allowed to stand in the kitchen for 24 hours, then the clamps are loosened, the jars placed again in the steriliser, brought to the boil as before, and boiled for an hour. Vacuum jars need not have seals loosened. After processing, the jars are again overflowed with boiling brine and sealed. They are stood for another day, processed again for an hour, sealed, cooled, the seals tested and jars stored. It is advisable to boil vegetables before using.

Faulty rings, carelessness in sealing, under sterilising and cracked jars will cause vegetables to spoil. Never use vegetables that are bubbly or cloudy or have bad odour, but burn or bury contents of bottle.

Tomatoes may be treated in the same way as fruits, processing for 20 minutes, brine used in place of syrup. Beetroot is cooked till almost tender, cold dipped, skins removed, packed in slices in jars. The covering liquid is 1½ pints water, ¼ pint vinegar, 2 oz. sugar, 1 oz. salt.

DRY SALTING BEANS

Prepare beans as for cooking. Allow ¼ lb. salt to 1 lb. beans. Put a layer of salt, then a layer of beans about one inch in depth in an earthenware crock or glass jar. Continue in layers till all beans are used; finish with a layer of salt. Cover with a clean plate or board and weight with a clean brick or similar weight. Do not use iron. Cover with cloth, set in a cool place. After about one day the beans should be covered with brine formed by the salt drawing liquid from the beans. If beans are not covered in 36 hours strong brine (½ lb. salt to 1 qt. water) should be added.

The beans must be kept under the brine. More beans may be added from time to time. A cover of melted paraffin wax or fat may be used.

To use, take out beans required, wash, soak in several changes of water, bring to boil, drain, put in fresh water and cook till tender.

VEGETABLE DRYING

Dried vegetables can be readily stored, and, while not as valuable as fresh, form a ueful substitute. Carrots, parsnips, turnips, beans, peas, pumpkins, cabbage, beet, potatoes, onions, silver beet, rhubarb, mushrooms, tomato can be dried.

The drying can be done out of doors in warm climates. In cooler climates the drying is slower and indoor methods are best, as vegetables need to dry quickly. For outdoor drying wooden trays may be used; for indoors vegetables may be placed in cloths on over trays, and set in a cool oven with the door open, or they may be placed in a home-made evaporator, or a rack of trays may be placed over a stove.

Most vegetables should be young and tender, but peas should be fully matured. The vegetables are washed and prepared as for cooking. When prepared vegetables are blanched, that is, dipped in boiling water or steamed for 3 to 5 minutes according to size, age and variety; for green vegetables 1 teaspoonful of bicarbonate of soda to the gallon. They are then wiped with a cloth to absorb moisture, and spread to dry on wooden trays or metal trays, covered with cloths. To facilitate handling, vegetables may be given a cold dip after blanching. If vegetables are sliced thinly or shredded they may dry more rapidly, and later, when soaked, will absorb water more rapidly.

The temperature for drying should be about 110 deg. F. to 145 deg. F. for the first part of the drying, 110 deg. F., then gradually rising. A current of hot air is essential for rapid drying; if oven dried they must be stirred occasionally to prevent scorching. The test for root vegetables is that they are hard, for other vegetables that no moisture can be squeezed from a broken surface. Sun drying may take several days, evaporating from 3 hours to 6 to 8 hours, depending on the size.

Sun-dried vegetables may be heated in the oven for a short period after drying to kill any insect eggs. This heating destroys life, and those so heated will be useless as seed. Sun drying bleaches green vegetables. Rapid drying gives better colour and flavour than slow drying.

After removing from the drier, the vegetables should be left overnight in a box, and then examined next morning. If no moisture can be squeezed out they should be stored in containers, such as boxes, screw-top jars, or tins with fitting lids. Dried vegetables may be attacked by rodents, insects or mould, so storage should guard against these.

French and butter beans.—Wash, string, shred or leave whole, dip and dry. Do not use soda for butter beans.

Dry shelled beans.—Mature and dry on the bush. Shell and store. After shelling they may be washed, heated at 160 F. to 180 F. for 10 to 15 minutes to destroy insect life and prevent losses.

Peas.—Mature green peas may be shelled, blanched and dried. Sun drying is not generally satisfactory. Field peas may be treated as dry-shelled beans, being allowed to dry on the bush.

Carrots, parsnips and turnips.—Wash, scrape or peel. Blanch. If required for soup, shred, otherwise cut in rings.

Cabbage, silver beet and spinach.—Wash, cut out hard stems, slice, blanch and dry.

Pumpkin.—Slice and steam until transparent, then dry.

Potato.—Peel, slice and steam till transparent.

Beetroot.—Dip in hot water, peel, slice and dry.

Onion.—Peel, slice or shred, and dry.

Celery.—Outside stalks and dark green leaves are suitable. Wash well, blanch and dry.

Mushrooms.—Brush off dirt, use large mushrooms. Do not blanch, dry.

Dried tomato pulp.—Boil tomatoes as pulp till thick, spread in layers to dry.

Rhubarb.—Wash, blanch 1 minute, cut in short lengths and dry.

Corn.—Pick when at its prime, blanch 8 minutes, cold dip, dry.

Dried vegetables should be soaked before using. If warm water is used the period of soaking is shorter. Spinach requires about half an hour; other vegetables longer. Beet may be soaked overnight. Soaking water should be used for cooking vegetables in.

DON'TS.

1.—Don't buy cheap seeds; they are dear in the long run. Buy good seeds from a reliable firm; it is quality you want, not quantity.

2.—Don't waste seed. It is now hard to get and must be saved where possible. Sow according to directions.

3.—Don't let weeds grow among the vegetables. At any time they are robbers of the soil. Keep them down by constant cultivation.

4.—Don't try to grow too many vegetables in too small a space. If crowded, they will run to seed quickly.

5.—Don't use artificial fertilisers too freely among growing plants, as they are likely to do more harm than good. A little and often, for best results.

6.—Don't waste your old vegetable matter. Dig it in. It is good humus and helps to retain soil moisture in dry weather.

7.—Don't allow growing vegetables to become dry at any time. Good soakings once or twice a week are better than light sprinklings every day; they only bring the roots to the surface to be burnt by the hot sun.

8.—Don't put your gardening tools away dirty. Wash them clean. They are so much better to use next time. A good gardener is judged by his tools. Give all wooden handles an occasional rub with raw linseed oil.

9.—Don't delay! Find out the whereabouts of your nearest horticultural society. Attend their meetings. They will be pleased to help you with your problems.

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